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PORTUGUESA



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CENTRO DE
INVESTIGAÇÃO
EM ANTROPOLOGIA
E SAÚDE
UNIVERSIDADE
DE COIMBRA

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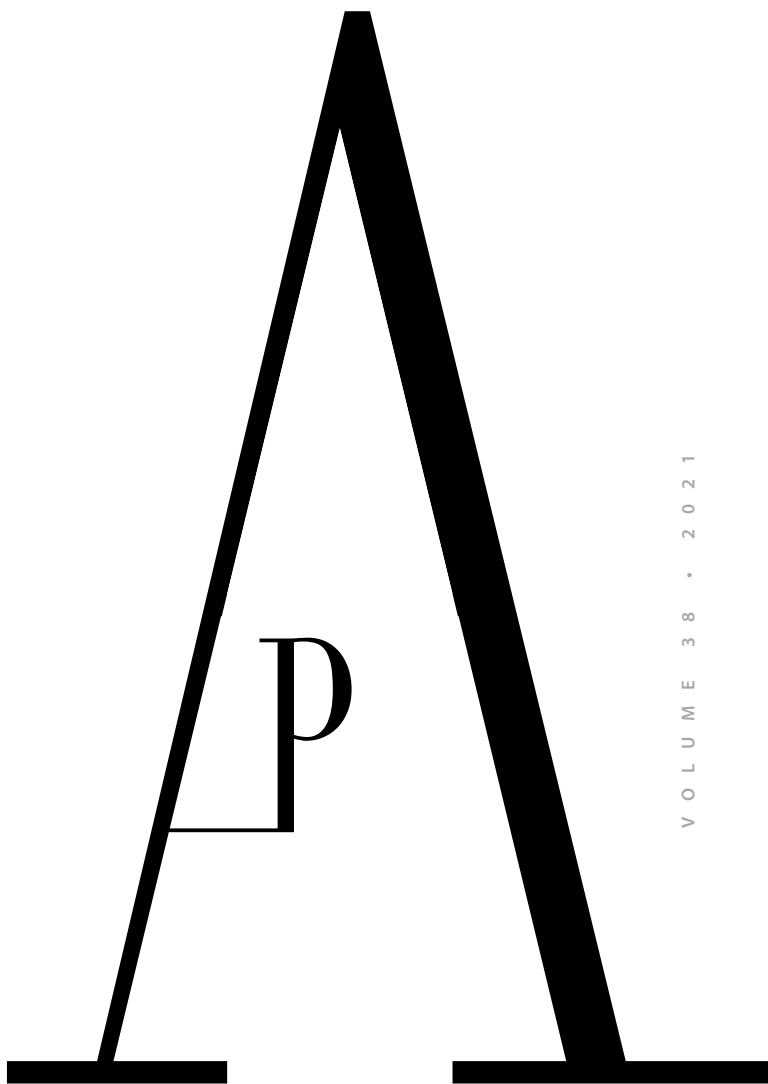
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Ativistas-ilha: o espaço enquanto fator de (in)visibilidade da diversidade sexual

Island-activists: the centrality of space in the (in)visibility of sexual diversity



Joana Brilhante^{1,a*}

Resumo Este artigo reflete na centralidade do espaço relativamente à (in)visibilidade de pessoas LGBTQ (Lésbicas, Gays, Bissexuais, Trans e Queer) através de um estudo de caso na Região Autónoma dos Açores (RAA). A partir de uma análise qualitativa, utilizaram-se entrevistas semiestruturadas para estudar as experiências e percepções de ativistas LGBTQ locais, colocando a insularidade enquanto lente de análise para pensar na forma como as sexualidades são situadas num dado contexto espaço-temporal. A geografia insular revela-se uma ferramenta de análise com elevado potencial ao demonstrar que o isolamento conferido pela condição geográfica ultrapassa os limites da própria geografia, permeando as vivências não heterocisnormativas, isolando-as, e criando aquilo que designo por Activistas-Ilha.

Palavras-chave: Geografia das sexualidades; ativismo LGBTQ; insularidade; Região Autónoma dos Açores.

Abstract This paper considers the centrality of space regarding the (in)visibilities of LGBTQ (Lesbian, Gay, Bisexual, Trans and Queer) people, using a case study in the Autonomous Region of Azores. It is a qualitative study that uses semi structured interviews to analyse the perceptions and experiences of local LGBTQ activists, adopting insularity as a lens to analyse the ways in which sexualities are situated in space and time. The insular geography reveals itself as a very promising tool, showing that the isolation stemming from the geographic conditions exceeds geography and slips into non normative experiences, isolating them and creating what I suggest to call Island-Activists.

Keywords: Geography of sexualities; LGBTQ activism; insularity; Autonomous Region of Azores.

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Introdução

A discriminação sentida pela população Lésbica, Gay, Bissexual, Trans e Queer (doravante LGBTQ) tem mobilizado inúmeros atores sociais, dos mais variados sectores e origens geográficas, a estudar, conhecer, descrever e intervir em prol de sociedades mais justas, nas quais a discriminação com base na orientação sexual e/ou identidade e expressão de género não tenha lugar. Data de 11 de março de 2021 a resolução do Parlamento Europeu que proclama a União Europeia como zona de liberdade para pessoas LGBTQ (2021/2557(RSP)). Esta constitui mais um reforço aos tratados e recomendações onde se consagra o direito à igualdade e não discriminação enquanto direito fundamental, para o qual os estados membros têm “a obrigação e o dever de respeitar, garantir, salvaguardar e observar” (Parlamento Europeu, 2021: sp).

No nosso país, as variadas diretrizes internacionais, o esforço de instituições, associações e pessoas individuais têm-se traduzido em avanços legislativos concretos, especialmente nas últimas duas décadas (Santos, 2018). Não obstante, um quadro legal progressista não se traduz diretamente numa sociedade livre de preconceitos (Ferreira e Silva, 2011; Kapur, 2006). Confirma-se esta afirmação ao olhar para relatórios nacionais e internacionais demonstrativos da violência, opressão e invisibilidade de que as pessoas LGBTQ são alvo (FRA, 2020; Relatório ILGA, 2020).

Variadas abordagens podem ser utilizadas para estudar o fenómeno da discriminação de pessoas com identidades não normativas. Neste artigo, propomos fazê-lo através de um elemento-chave: o espaço. A relação entre sexualidade e espaço tem vindo a ser amplamente explorada no âmbito dos estudos sobre sexualidades, especialmente a partir de meados da década de 1990 (Bell e Valentine, 1995; Hubbard, 2018; Browne et al., 2019). Esta centralidade do espaço na construção das sexualidades permite uma análise mais focada em identidades e práticas, na forma como as representamos, legitimamos ou rejeitamos em cada contexto. Por outras palavras, permite-nos verificar como as sexualidades são situadas num dado contexto espaciotemporal (Browne et al., 2007; Browne e Brown, 2016).

Em Portugal, apesar de um crescente interesse da academia nos estudos LGBTQ (Nogueira e Oliveira, 2010), a sua centralização nos grandes centros urbanos não tem permitido uma análise profunda das vivências em contextos mais isolados, com menos densidade populacional ou em meios rurais.

Neste trabalho, utiliza-se a Região Autónoma dos Açores (RAA) para nos debruçarmos sobre esta ausência e contribuir para o corpo de estudos acerca das sexualidades do nosso país. Através da geografia insular, pretende-se refletir na importância do espaço nas liberdades das pessoas LGBTQ. Para tal, utilizamos

um reconhecido fator de visibilidade, o ativismo LGBTQ local (Santos, 2013).

Será a prática de ativismo LGBTQ semelhante nos grandes centros urbanos ou em cidades pequenas? Será a insularidade um fator de relevo quando se considera o ativismo LGBTQ local? De que forma o espaço insular é ou não representado nos discursos das pessoas que têm vindo a dar visibilidade a estes temas na RAA? Estas são algumas das questões abordadas ao longo deste estudo. Demonstra-se que a visibilidade e o espaço estão intimamente interligados — de resto, estando em sintonia com diversa literatura da área da Geografia das Sexualidades (Bell e Valentine, 1995; Browne et al., 2007; Browne e Brown, 2016; Hubbard, 2018; Browne et al., 2019) —, sendo ambas peças fundamentais para o entendimento dos fenómenos de discriminação. Pretende-se assim contribuir para que a discriminação sentida pela população LGBTQ passe a ser um relato dos artigos científicos do passado, não cabendo em sociedades contemporâneas comprometidas há mais de sete décadas com a Declaração Universal dos Direitos Humanos.

Metodologia de investigação

Este artigo apresenta parte dos resultados de uma investigação realizada no âmbito de uma tese de doutoramento em Direitos Humanos nas Sociedades Contemporâneas. Esta investigação é feita a partir de uma análise qualitativa que utiliza

a Região Autónoma dos Açores enquanto estudo de caso, com foco nas duas ilhas mais populosas: São Miguel e Terceira¹. Para o artigo, são considerados os dados relativos a sete entrevistas realizadas a ativistas LGBTQ, que permitirão uma reflexão acerca do conceito de insularidade e das visibilidades das pessoas LGBTQ locais, através do olhar de pessoas que fazem ou fizeram ativismo no arquipélago.

As entrevistas foram identificadas de “A” a “G”. Anonimizar dados qualitativos, especialmente em contextos com as características geográficas e sociais exploradas ao longo deste trabalho, demonstra-se uma tarefa difícil, muitas vezes não alcançável (Surmiak, 2018). Não obstante, este foi um tema que não levantou inquietações de maior, sendo que as pessoas entrevistadas demonstraram total despreocupação relativamente à possibilidade da revelação da sua identidade. A decisão de manter o anonimato, tanto das pessoas como das associações que representam, foi ponderada tendo em conta diversos fatores. A manutenção do anonimato em casos de estudo de minorias e grupos vulneráveis é amplamente defendida na literatura, uma vez que poderá prevenir a marginalização e estigmatização das pessoas em causa (Vainio, 2012). No decorrer do trabalho, ainda que as pessoas entrevistadas sejam ativistas, foi perceptível que a

¹ São Miguel e Terceira são as ilhas onde reside a grande maioria da população açoriana, cerca de 80% (Pordata, 2020).

sua visibilidade enquanto membros da comunidade LGBTQ era negociada em algumas circunstâncias. Relativamente às associações, optou-se por não revelar os nomes por motivos que se explorarão mais adiante, ligados ao facto de estas serem maioritariamente geridas por apenas uma pessoa, o que se incompatibiliza com a decisão de manter o anonimato de quem participou no estudo.

Para a recolha de contactos, foi feita uma análise exploratória em 2018, por ocasião da quarta e última marcha LGBTQ de Ponta Delgada. A presença neste evento permitiu aceder ao contacto do responsável pela organização da marcha, assim como do ativista que gere a associação que organizou as primeiras três marchas na ilha. Estes dois ativistas foram os *gatekeepers* (Crowhurst, 2013) para os restantes contactos em São Miguel. Relativamente à Terceira, foi a análise documental a dois dos jornais regionais (*Açoriano Oriental* e *Diário Insular*) que levou ao nome de um ativista nesta ilha. As restantes pessoas foram contactadas através da metodologia de bola de neve [*snowball sampling*] (Heckathorn e Cameron, 2017).

Dado o interesse nas perceções e experiências das vivências locais, as entrevistas foram semiestruturadas (Mason, 2002); e devido à atual situação pandémica Covid-19, foram realizadas na sua totalidade *online*, através da plataforma Zoom. Ao iniciar a entrevista, era feito o pedido para a gravação e a leitura do consentimento informado. Posteriormente, foi feita a trans-

crição *verbatim*, com recurso ao programa MAXQDA, a codificação e interpretação dos dados através de análise temática (Braun e Clarke, 2006; Lester et al., 2020) e redes temáticas (Attride-Stirling, 2001).

Hastear a bandeira no meio do Atlântico

Chegou-se ao contacto com oito pessoas que fizeram ou fazem ativismo LGBTQ na ilha de São Miguel e na ilha Terceira. Destas, sete aceitaram em tempo útil o convite para a realização de entrevista. Foram realizadas entre julho e setembro de 2020, com uma duração média de 1h40m.

Três participantes faziam parte de associações LGBTQ; dois, de grupos informais; e dois não estavam associados a qualquer grupo ou associação. As idades estavam compreendidas entre os 19 e os 46 anos. Relativamente à escolaridade, quatro tinham concluído o ensino superior e três tinham o ensino secundário ou curso profissional equivalente. Apenas uma destas pessoas nunca tinha vivido fora dos Açores e apenas um não nasceu nesta Região Autónoma. Na data das entrevistas, viviam três ativistas em São Miguel, dois na Terceira, um noutra ilha do grupo central e um fora de Portugal.

Relativamente à orientação sexual e/ou identidade de género, ao longo das entrevistas as pessoas identificaram-se como mencionado da tabela seguinte:

É interessante analisar que apenas uma pessoa se refere à sua identidade

de género, presumivelmente por ser a única com uma identidade diferente de cisgénero. Mesmo neste caso, ao longo da entrevista fluía entre uma autoidentificação enquanto homem gay e pessoa não binária. Relativamente à orientação sexual, dois dos ativistas não referiram diretamente a sua orientação sexual, mas afirmavam ter, ou ter tido, relações amorosas com outros homens.

A codificação preliminar das entrevistas permitiu elaborar uma rede temática com os assuntos mais explorados tanto relativamente às experiências de fazer ativismo LGBTQ nos Açores, como sobre a experiência e/ou perceção de se ser uma pessoa LGBTQ na região. Para ambos os casos, o espaço tornou-se central nas descrições das vivências. Identificaram-se três categorias relativamente a estes tópicos: 1) Geografia Insular; 2) Espaço Público; 3) Rural vs. Cosmopolita.

Relativamente às experiências de ativismo, as perceções são unânimes. O contexto açoriano parece ser um lugar de difícil acesso à mobilização social,

não só no caso do ativismo LGBTQ, mas em geral. De resto, tal dificuldade vai ao encontro da literatura (Almeida, 2009), como sendo uma característica comum ao território português, muitíssimo expressiva no contexto em análise.

“Eu sei que isso aí [Continente] também acontece, mas aqui é bem pior, porque como é um **sítio mais fechado** todas as bichas se conhecem... há mais censura. Aí, a comunidade LGBT não tem medo de dizer o que pensa porque é **uma zona maior** e as pessoas não estão logo com a predisposição para censurar. Cá, como é **um meio mais pequeno**, as pessoas entretêm-se falando mal da vida uns dos outros.”

(Entrevista D)

Foi mencionada sem exceção a dificuldade acrescida de se fazer ativismo LGBTQ nas ilhas, e a complexidade atribuída ao espaço:

“É muito difícil e é muito cansativo. É mais cansativo do que nas **grandes ci-**

Tabela 1. Orientação sexual e/ou identidade de género das pessoas entrevistadas.

Identificação	N.º de ativistas
Homossexual/Gay	1
Lésbica	1
Bissexual	1
Homens que têm relações com homens	2
Não Binário/Homem Gay	1
Heterossexual	1

dades. A minha experiência [enquanto ativista] era sempre em grandes cidades, fazíamos as nossas coisas e pronto, algo avançava sempre, aqui não é assim. [...] É sempre só uma pessoa [...] e depois é quase sempre alguém que **esteve em Lisboa** ou **noutro lugar** e veio e quer fazer algo porque é preciso e tal, mas daí a uns meses... esquece.”

(Entrevista B)

A ideia levantada por este ativista (entrevista 3), de que as pessoas que acabam por querer fazer ativismo LGBTQ na região são pessoas que saíram do arquipélago e depois voltaram, apareceu em mais do que uma entrevista, e acaba por ser uma tendência também corroborada pelos dados que aqui se apresentam, em que apenas uma das pessoas entrevistadas não viveu fora da RAA.

“É assim, eu também quando vim para cá, eu vinha com... também vinha **de Lisboa**, que é um mundo, não é? Muita coisa acontece e vinha com muita vontade de fazer coisas (...) tinha uma série de ideias para fazer algumas iniciativas mas eu depois fui esmorecendo.”

(Entrevista F)

Na verdade, esta ideia da quebra da insularidade, além de aparecer associada ao ativismo LGBTQ, aparece também na perceção sobre as pessoas que costumam participar nas atividades organizadas:

“Estou a dizer aquela elite mais intelectual, mais liberal, que também **já saiu da ilha**. Ou seja, também teve alguns estudantes de **Erasmus**, pronto. Agora... chegar à **pessoa da ilha**, que nunca **saiu da ilha**... é muito difícil chegar.”

(Entrevista F)

A ilha ou a quebra da insularidade surgem enquanto elementos centrais nas descrições das experiências relatadas. Enquanto a insularidade aparece associada a dificuldades, a quebra da insularidade, por sua vez, é identificada enquanto aliada, seja porque há uma ideia de classe social elevada associada à pessoa que sai da ilha, de quem se esperam atitudes mais liberais e informadas, seja por trazer pessoas que poderão contribuir para a visibilidade do tema LGBTQ a nível local:

“Não porque... eu falo por mim...”

Na rua... Os **turistas** têm tido um bom papel nisso que eu vou falar agora, que é: os meus amigos LGBT, cá, não conseguem estar de mão dada **na rua**. Não conseguem quebrar o tabu e **os turistas é que vêm para o quebrar.**”

(Entrevista A)

Este reconhecimento de que a visibilidade LGBTQ na região se encontra diretamente relacionada com as pessoas que “vêm de fora” liga-se à ideia generalizada de que as sexualidades/identidades não normativas locais vivem “no armário”.

"[...] é incrível de ver, porque eu vim de um mundo que é completamente diferente. Sim, continua a existir gente no armário, continua a existir violência e tudo, mas era o oposto, 90% estavam fora e 10% no armário. Aqui [nos Açores], **é mais de 90% que continuam no armário.**"

(Entrevista B)

Aqui, através das questões direcionadas à percepção ou experiência de se ser LGBTQ nos Açores, foi possível revelar a insularidade e o isolamento enquanto fatores centrais nas experiências relatadas. No esquema que se segue, apresentam-se algumas das palavras utilizadas para descrever esta relação:

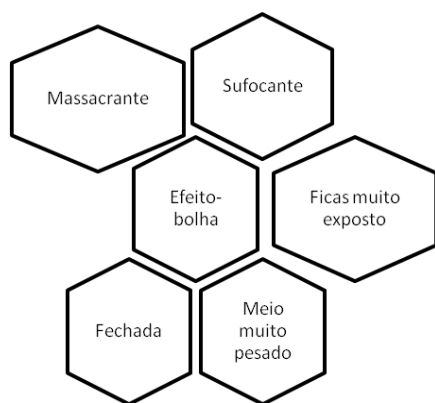


Figura 1. Palavras utilizadas para descrever a experiência LGBTQ em contexto insular.

As palavras utilizadas, assim como as experiências relatadas nos raros casos descritos enquanto vivências livres e visíveis, são quase só por si esclarecedoras da ausência de visibilidade pública:

"[...] **é um meio muito mais pequeno, ficas muito mais exposto** [...] o que eu quero dizer com isto é que é **difícil** às vezes movimentar aqui, porque **não te sentes tão protegido, não te sentes tão confortável**. Pá, pequenas coisas como eu vou na **rua** de mão dada com a minha namorada, que é perfeitamente normal, e as pessoas conseguem ainda ficar paradas e olhar. Sabendo que eu sou de cá, nunca escondi nada em relação à minha orientação sexual [...] mas há sempre estes olhares, há sempre aquele choque [...] é literalmente assim, não é um dia, nem dois, é todos os dias, várias vezes ao dia. **É massacrante.**"

(Entrevista E)

As ideias relativas à vivência num território insular e "pequeno" foram associadas às dificuldades de se fazer ativismo e consequentemente de se contribuir para a visibilidade destes assuntos a nível local. Acresce uma sensação de superexposição, não necessariamente relacionada com a prática do ativismo, mas com a visibilidade geral, atribuída ao número de habitantes e ao isolamento, dando às pessoas uma sensação de impossibilidade de anonimato. Veja-se a tabela seguinte:

Esta ideia de anonimato é muitas vezes mencionada enquanto "requisito" para as pessoas viverem livremente, como se lê nos seguintes exemplos:

"As pessoas **saem** pela privacidade, mas também para lidarem consigo

Tabela 2. Relatos da sensação de superexposição.

Entrevista	Relato
A	"Aqui nos Açores, toda a gente se conhece"
B	"Porque toda a gente se conhece, é que, literalmente, toda a gente se conhece"
C	"Porque toda a gente se conhece [...] a minha família é uma família muito antiga [...] acho que a maioria das pessoas conhece"
D	"Porque é um meio muito fechado, é um meio pequeno, toda a gente se conhece"
G	"Posso não conhecer as pessoas, mas conheço. Porque é filho, primo, tio... nós estamos quase todos interligados"

próprios um bocadinho, não é? Especialmente o masculino, que **sai**, vai para Lisboa, ou para o Porto, ou para Madrid, e pronto, como a gente costuma dizer, tornam-se grandes bichas. E depois, **vêm** para os Açores e são uns senhores conservadores que dizem mal de tudo." (Entrevista B)

"Mas pronto, em relação aqui ao caso específico **da ilha** [...] realmente sente-se muito, ou seja, mesmo quem é gay, lésbica, por aí fora, não... podem até assumir, claramente, mas socialmente tentam sempre ser mais... **filtrar** mais aquilo que sentem, partilhar afetos e isso, porque **ficam cansados** sempre dos olhares, ou... é assim..." (Entrevista F)

Os aspetos mencionados, juntamente com outros levantados ao longo das entrevistas, como um expressivo conservadorismo religioso² (associado a discri-

minação) ou o medo de rejeição familiar, perda de emprego, violência, de entre outros, comprovam o que há muito se defende nos estudos sobre sexualidades: que a (in)visibilidade se revela um fator-chave nas vivências e liberdades das pessoas com sexualidades e identidades não normativas (Cruikshank, 1992). Há uma negociação das visibilidades associadas à "diferença", e esta negociação relaciona-se diretamente com a sensação de risco ou de vulnerabilidade (Colliver, 2021). Estas presenças, quando visíveis, em sociedades estruturalmente homofóbicas e transfóbicas, são expressas através de um elemento essencial, que é o espaço (Bell e Valentine, 1995; Binnie e Valentine, 1999; Browne et al., 2007; Browne e Brown, 2016), e que o

² É frequente encontrarmos referências sobre a ligação do povo açoriano ao Catolicismo. Estas

podem provir da literatura ou de discursos políticos; e nas entrevistas aqui realizadas, é um tema transversal no imaginário das pessoas. Não obstante, este é um "rótulo" embutido em pré-conceitos, sobre os quais deve ser feita uma reflexão crítica. Este não será o espaço onde farei esse exercício; no entanto, pode ser lido no trabalho de Miguel Vale de Almeida (2009).

presente trabalho vem corroborar. Veja-se, por exemplo, os resultados de vários relatórios³ nacionais e internacionais, que mostram que a esfera pública serve muitas vezes de lugar de “correção” para pessoas que não encaixem na norma, seja através de olhares, ataques verbais, ou mesmo violência física (FRA, 2020; ILGA, 2020), levando a que muitas pessoas LGBTQ sintam que têm de esconder a sua orientação sexual e/ou identidade ou expressão de género.

A reflexão que cabe fazer nesta secção é que o isolamento conferido pela condição geográfica da insularidade parece funcionar enquanto reforço destas dificuldades, tornando o ato de “hastear a bandeira no meio do atlântico” uma ação particularmente complexa: seja pela sensação de realidade aumentada no que toca à importância do indivíduo na sociedade; seja pela falta da ideia de protecção de grupo ou do anonimato, conferidos geralmente pelas grandes cidades; ou ainda pelo medo de exposição que pode advir de situações delicadas, como a procura de auxílio médico ou psicológico.

A geografia insular revela-se uma ferramenta de análise extremamente

interessante ao demonstrar que o isolamento conferido pela condição geográfica ultrapassa os limites da geografia, permeando a vida das vivências não cisheteronormativas, como se irá explorar na secção seguinte.

Ativistas-ilha

Este trabalho reflete nas (in)visibilidades da população LGBTQ, relacionando-a com o isolamento conferido pelo contexto geográfico. Como referido anteriormente, as condições geográficas estudadas parecem trazer uma dificuldade acrescida à promoção das visibilidades não cisheteronormativas.

Poder-se-ia especular que a vivência num sítio mais isolado onde “toda a gente se conhece” pudesse ser um fator facilitador, por exemplo, na busca de um grupo com vontade de lutar por uma causa comum. No entanto, os dados revelam outra realidade. Nenhuma das pessoas entrevistadas fazia parte da mesma associação ou grupo, tampouco tinham organizado eventos em conjunto. Apenas em dois dos casos, uma associação e um grupo informal, se tinha começado com um conjunto de pessoas, que, com o tempo, ficou reduzido a uma só pessoa. Noutro caso, uma associação nacional que ganhou representatividade nesta região autónoma começou com duas pessoas, e com o passar dos anos ficou, à semelhança dos anteriores, reduzida a um indivíduo. Os restantes casos são ativistas isolados que

³ Veja-se, por exemplo, os dados relativos ao relatório da European Union Agency for Fundamental Rights (2020), que demonstram que em Portugal 40% das pessoas LGBTQI inquiridas afirmam ter sido vítimas de discriminação em situações do dia a dia, como uma simples ida ao café, a um restaurante ou mesmo a um hospital. Disponível em <https://fra.europa.eu/en/publication/2020/eu-lgbti-survey-results> (consultado em 2-3-2021).

tentam, de forma isolada, dar visibilidade a estes temas. Logo neste primeiro ponto, pode levantar-se a insularidade enquanto fator, sendo que estas pessoas estão divididas por três ilhas distintas, o que dificulta possíveis colaborações.

No que toca à captação de pessoas para os movimentos existentes, a dificuldade sentida em manter ou atrair novos membros também parece estar diretamente associada a fatores socioculturais ligados ao contexto geográfico. A análise efetuada a partir das entrevistas permitiu perceber que a dificuldade com a renovação de recursos humanos nos coletivos existentes não acontece por falta de vontade dos elementos responsáveis pelas associações — tanto as formais como os grupos informais —, mas por motivos relacionados com a sobreexposição sentida pelas pessoas LGBTQ locais.

As descrições que se reportavam ao receio de exposição foram muito frequentes, como também se demonstrou na secção anterior, associadas a um medo de “*coming out* forçado” (*outing*⁴). Baldacchino e Veenendaal (2018) apontam-nos como característica basal das “sociedades-ilha” a intimidade. Esta intimidade refere-se às características do ambiente social, que é caracterizado por profundas conexões pessoais e sobreposições de relações. Este facto pode

ser justificativo da percepção dominante transmitida ao longo das entrevistas de que as pessoas LGBTQ locais vivem no armário. Acresce a este ponto o facto de, mesmo nos casos em que assumiram publicamente a sua diversidade sexual ou de género, as pessoas não terem comportamentos na esfera pública diferentes dos esperados pela heteronorma. Como, por exemplo a demonstração pública de afetos por casais homoafetivos.

A referência a “sair da ilha” também aparece enquanto recurso apresentado pelas pessoas entrevistadas: a “solução” para muitas pessoas LGBTQ açorianas que, reunindo as condições socioeconómicas, escolhem sair, preferindo encontrar refúgio no anonimato. Esta tendência migratória acresce aos fatores que permitem interpretar a invisibilidade LGBTQ a nível local.

A fraca participação da comunidade açoriana nos eventos relacionados com o tema, compensada em número por estudantes universitários ao abrigo do Programa Erasmus ou turistas estrangeiros de passagem na região, demonstra a importância do fluxo de pessoas na “quebra da insularidade”. Além das observações no terreno, o papel do turismo foi várias vezes apontado pelas pessoas entrevistadas como um fator de grande importância na visibilidade das vivências LGBTQ a nível local.

O conjunto de dados que se apresenta neste trabalho mostra que, no caso em análise, o isolamento conferido pelo

⁴ O termo *outing* é utilizado para descrever uma situação em que a orientação sexual de uma pessoa é revelada a terceiros contra a sua vontade (Rodrigues et al., 2010).

contexto geográfico ultrapassa a própria geografia e permeia as vidas destes/as ativistas, isolando-os. A análise realizada leva-me a sugerir que estes são, de facto, Ativistas-ilha, rodeados por um mar de invisibilidade alimentado e reforçado pela condição insular. Este mar de invisibilidade esconde a restante comunidade LGBTQ local, também ela constituída por Pessoas-ilha, submersas pelos mesmos fatores e condicionantes.

Esta secção serviu para demonstrar o isolamento vivido pelas pessoas que praticam ativismo LGBTQ na Região Autónoma dos Açores. Através das suas experiências e relatos, verifica-se que estes Activistas-ilha têm uma dificuldade acrescida na luta pelos direitos e liberdades das pessoas LGBTQ locais. O isolamento, quer dos membros de coletivos, quer das restantes Pessoas-ilha, dificulta a construção de um movimento social sustentável no tempo, um movimento forte e coeso, capaz de responder às necessidades locais. A centralidade do espaço fica clara no contexto analisado, demonstrando que devem ser tidas em conta as suas particularidades e características idiossincráticas, permitindo a análise e constituição de medidas futuras que contemplem o exercício de liberdades e direitos para toda a população local.

Conclusão

Mas contra o que se poderia tirar da área apertada que nos coube no berço,

quanto à nossa equação com o mundo e à nossa maneira de respirar, a verdade é que ninguém mais do que o ilhéu, a não ser talvez o homem da planície, possui o instinto da amplidão. É com os próprios olhos que tiramos do mar a terra que nos faltou.

Vitorino Nemésio, 1983

Começa-se a conclusão deste trabalho citando Vitorino Nemésio, célebre poeta e escritor açoriano, cuja obra também se debruça sobre o conceito de insularidade para compreender e descrever a sociedade açoriana do século XX (Rosa e Trigo, 1987). A importância dada ao conceito que encontramos nos escritos do poeta e romancista revela-se útil também nos terrenos das ciências sociais. Este trabalho demonstrou que a geografia insular faz parte das descrições das vivências das pessoas que fazem ou fizeram ativismo LGBTQ nesta região autónoma, permitindo-nos fazer uma reflexão acerca da centralidade do espaço quando pensamos nas (in)visibilidades da população LGBTQ. Os dados apresentados estão de acordo com o demonstrado na literatura que aponta para o espaço enquanto elemento fundamental da análise das realidades sobre a diversidade sexual e de género (Browne et al., 2019). Mostra-nos como as exclusões sociais se relacionam com a exclusão do espaço e a invisibilidade; e, consequentemente, a reflexão nestes aspetos permite o planeamento de futuras ações de combate à discriminação, agindo em conformida-

de com as especificidades de cada local.

A insularidade revelou-se um elemento-chave no imaginário das pessoas entrevistadas, sendo apresentada enquanto reforço das dificuldades sentidas ou percecionadas das vivências das pessoas LGBTQ. Já a quebra da insularidade surge nos discursos enquanto aliada, por variados motivos, de entre eles a visibilidade proporcionada por turistas e evitada pela população LGBTQ local.

As características do espaço insular, descrito como “pequeno”, “fechado” ou como “efeito-bolha”, revelam um contexto onde a mobilização social se apresenta particularmente difícil, deixando as pessoas que tentam dar visibilidade ao tema na condição de Activistas-ilha. A negociação da visibilidade da diversidade sexual e de género torna-se particularmente desafiante nestes contextos, onde o anonimato parece uma condição inalcançável, exacerbando o medo de *outing*, da perda de relações sociais, a perda de emprego, ou simplesmente pelo cansaço da exposição. Estes fatores podem justificar a falta de visibilidade descrita pelas pessoas inquiridas, isolando-as na condição de agentes de visibilidade com os quais a restante população não se parece querer envolver.

A análise das particularidades deste contexto insular permite verificar — a título de proposta para trabalhos futuros — a utilidade de acompanhar o trabalho de profissionais de saúde a nível local. A relação positiva entre a revelação da identi-

dade e/ou orientação sexual no encontro com profissionais desta área tem vindo a ser demonstrada na literatura (Cahill e Makadon, 2014; Law et al., 2015). Os resultados que aqui se apresentam mostram que as estratégias de cuidados e prevenção devem ter em conta as características do espaço, demonstrando que em casos de grande isolamento poderá ser ainda mais difícil esta revelação, devendo ser trabalhadas estas sensibilidades a nível local, por exemplo a partir da formação das pessoas responsáveis pela prestação destes cuidados. Esta é uma das muitas aplicabilidades de uma análise enfocada nas especificidades do espaço, que se demonstra particularmente útil em contextos como o apresentado.

Em Portugal, alterações legislativas progressistas têm contribuído para o combate à secular discriminação da população LGBTQ — a alteração ao código do trabalho; o casamento entre pessoas do mesmo sexo; o direito à adoção; o direito ao acesso à Procriação Medicamente Assistida; ou a lei da autodeterminação da identidade e expressão de género e proteção das características sexuais. Não obstante, avanços legais não se traduzem necessariamente em sociedades mais igualitárias. São um contributo que requer intervenção específica, com atenção às características sociais, culturais, e, como este trabalho vem corroborar, às características geográficas de cada espaço. A condição insular, caracterizada pelo isolamento geográfico, contribui para um

hiato significativo entre a lei e a prática — este hiato é merecedor da atenção das sociedades contemporâneas, comprometidas há mais de sete décadas com a Declaração Universal dos Direitos Humanos.

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Referências bibliográficas

- Almeida, M.V. 2009. *A chave do armário: homossexualidade, casamento, família*. Lisboa, Imprensa de Ciências Sociais.
- Attride-Stirling, J. 2001. Thematic networks: an analytic tool for qualitative research. *Qualitative Research*, 1(3): 385–405.
- Baldacchino, G.; Veenendaal, W. 2018. Society and community. In: Baldacchino, G. (ed.). *International Handbook of Island Studies: A world of islands*. Nova lorque, Routledge: 339–352.
- Bell, D.; Valentine, G. 1995. *Mapping desire*. Nova lorque, Routledge.
- Binnie, J.; Valentine, G. 1999. Geographies of sexuality: a review of progress. *Progress in Human Geography* [Online], 23(2). [Consultado em 18-04-2021]. Disponível em: <https://journals.sagepub.com/doi/pdf/10.1177/030913259902300202>.
- Braun, V.; Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2): 77–101. DOI: 10.1191/1478088706qp0630a.
- Browne, K.; Lim, J.; Brown, G. 2007. *Geographies of sexualities: theory, practices and politics*. Surrey, Ashgate.
- Browne, K.; Brown, G. (eds.). 2016. *The Routledge research companion to geographies of sex and sexualities*. Oxon, Routledge.
- Browne, K.; Banerjee, N.; McGlynn, N.; Bakshi, L.; Beethi, S.; Biswas, R. 2019. The limits of legislative change: moving beyond inclusion/exclusion to create 'a life worth living'. *Environment and Planning C: Politics and Space* [Online], 39(1): 30–52. DOI: 10.1177/2399654419845910.
- Cahill, S.; Makadon, H. 2014. Sexual orientation and gender identity data collection in clinical settings and in electronic health records: a key to ending LGBT health disparities. *LGBT health* [Online], 1(1): 34–41. DOI: 10.1089/lgbt.2013.0001.
- Colliver, B. 2021. *Re-imagining hate crime: transphobia, visibility and victimisation*. Cham, Palgrave Macmillan.
- Crowhurst, I. 2013. The fallacy of the instrumental gate? Contextualizing the process of gaining access through gatekeepers. *International Journal of Social Research Methodology*, 16(6): 463–475.
- Cruikshank, M. 1992. *The gay and lesbian liberation movement*. Nova lorque, Routledge.
- Ferreira, E.; Silva, M.J. 2011. Equality policy in Portugal: the case of sexual orientation. In: Motmans, J.; Cuypers, D.; Meier, P.; Mortelmans, D.; Zanoni, P. (eds.). *Equal is not enough: chal-*

- lenging differences and inequalities in contemporary societies. Conference Proceedings. Antwerp, Policy Research Centre on Equal opportunities, University of Antwerp – Hasselt University: 142–155.
- Fundamental Rights Agency. 2020. *A long way to go for LGBTI equality*. [Online]. [Luxembourg], European Union Agency for Equal Rights. [Acedido em 05-04-2021]. Disponível em: https://fra.europa.eu/sites/default/files/fra_uploads/fra-2020-lgbti-equality-1_en.pdf.
- Heckathorn, D. D.; Cameron, C. J. 2017. Network sampling: from snowball and multiplicity to respondent-driven sampling. *Annual Review of Sociology*, 43: 101–119. DOI: 10.1146/annurev-soc-060116-053556.
- Hubbard, P. 2018. Geography and sexuality: why space (still) matters. *Sexualities*, 21(8): 1295–1299. DOI: 10.1177/1363460718779209.
- ILGA Portugal. 2020. *Relatório anual 2019: discriminação contra pessoas LGBTI+*. [Online]. [Lisboa], Observatório da discriminação contra pessoas LGBTI+. [Acedido em 5-04-2021]. Disponível em: https://ilga-portugal.pt/ficheiros/pdfs/observatorio/ILGA_Relatorio_Discriminacao_2019.pdf.
- Kapur, R. 2006. Revisioning the role of law in women's Human Rights struggles. In: Meckled-García, S.; Çali, B. (eds.). *The legalization of Human Rights: Multi-disciplinary perspectives on Human Rights and Human Rights Law*. Nova Iorque, Routledge: 101–116.
- Law, M.; Mathai, A.; Veinot, P.; Webster, F.; Mylopoulos, M. 2015. Exploring lesbian, gay, bisexual, and queer (LGBQ) people's experiences with disclosure of sexual identity to primary care physicians: A qualitative study. *BMC Family Practice*, 16: 1–8. DOI: 10.1186/s12875-015-0389-4.
- Lester, J. N.; Cho, Y.; Lochmiller, C. R. 2020. Learning to do qualitative data analysis: a starting point. *Human Resource Development Review*, 19: 94–106. DOI: 10.1177/1534484320903890.
- Mason, J. 2002. *Qualitative researching*. Londres, SAGE Publications.
- Nogueira, C.; Oliveira, J. M. 2010. *Estudo sobre a discriminação em função da orientação sexual e da identidade de género*. Lisboa, Comissão para a Cidadania e Igualdade de Género.
- Parlamento Europeu. 2021. *Resolução do Parlamento Europeu sobre a proclamação da EU como zona de liberdade para pessoas LGBTIQ (2021/2557RSP)*. [Online]. [Bruxelas], Parlamento Europeu. [Acedido em 2-05-2021]. Disponível em: https://www.europarl.europa.eu/doceo/document/TA-9-2021-0089_PT.html.
- Pordata. 2020. *Retrato dos Açores PORDATA*. [Online]. [Lisboa], Fundação Francisco Manuel dos Santos. [Acedido em 04-04-2021]. Disponível em: <https://www.pordata.pt/ebooks/AC2020v20200817/mobile/index.html>.
- Rodrigues, L.; Nogueira, C.; Oliveira, J. M. 2010. Violência em casais LGB- Estudo preliminar. In: Nogueira, C.; Oliveira, J. M. (eds.). *Estudo sobre a discriminação em função da orientação sexual e da identidade de género*. Lisboa, Comissão para a Cida-

- nia e Igualdade de Género: 243–266.
- Rosa, V. P.; Trigo, S. 1987. Da insularidade à açorianidade : algumas reflexões. *Arquipélago. Ciências Sociais*, 2: 187–201.
- Santos, A. C. 2013. *Social movements and sexual citizenship in southern Europe*. Basingstoke, Palgrave-Macmillan.
- Santos, A. C. 2018. Luta LGBTQ em Portugal: duas décadas de histórias, memórias e resistências. *Revista transversos* [Online], 14: 36-51. [Consultado em 24/04/2021]. Disponível em: <https://www.e-publicacoes.uerj.br/index.php/transversos/article/view/39327>.
- Surmiak, A. 2018. Confidentiality in qualitative research involving vulnerable participants: researcher's perspectives. *Forum: Qualitative Social Research* [Online], 19(3). [Consultado em 30-06-2021]. Disponível em: <https://www.qualitative-research.net/index.php/fqs/article/view/3099/4269>.
- Vainio, A. 2012. Beyond research ethics: anonymity as 'ontology', 'analysis' and 'independence'. *Qualitative Research*, 13(6): 685–698. DOI: 13.10.1177/1468794112459669.

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(In)Visible (a)sexuality? Media discourses and representations on asexuality in Portugal

(As)sexualidade (in)visível? Discursos e representações mediáticas sobre a assexualidade em Portugal



23

Rita Alcaire^{1a*}

Abstract This article uses multimodal analysis to explore the representation of asexuality in Portuguese mainstream media from 2011–2017. After an overview of how the concept of asexuality has been discussed in scientific literature, I briefly address how its relationship with the media has been an object of study internationally and how the concept captured media attention in Portugal. I then proceed to a multimodal analysis of a collection of media stories on asexuality in Portuguese print (newspaper and magazines) and broadcast (radio, television and internet) mainstream media, identifying major themes and then considering the critical trends and absences. The major tendency points to a positive portrayal of asexuality as part of the human experience and puts asexually identified people centre stage, owning the narratives about themselves.

Resumo Este artigo usa uma análise multimodal para explorar a representação da assexualidade nos *media* dominantes portugueses entre 2011–2017. Após uma apresentação de como o conceito de assexualidade tem vindo a ser discutido na literatura científica, abordo de uma forma breve como a sua relação com os *media* tem sido objeto de estudo a nível internacional e como o conceito captou atenção mediática em Portugal.

A principal tendência aponta para um retrato positivo da assexualidade como parte da experiência humana e coloca as pessoas assexuais no centro do palco, tomando controlo da narrativa sobre si mesmas.

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Keywords: Asexuality; mass media; representations; asexual activism; human rights; Portugal.

Palavras-chave: Assexualidade; *mass media*; ativismo assexual; direitos humanos; Portugal.

Introduction

Asexuality is predominantly accepted as describing people who do not experience sexual attraction and as a sexual orientation, thus differing from celibacy and desire disorders (AVEN, 2021). The concept has proven to be extensively polysemic, as becomes evident in scientific publications that focus on the topic. Literature has referred to asexuality in different ways, namely as a life-long lack of sexual attraction towards other people and claiming the usefulness of defining it as a sexual orientation typified by absence of sexual attraction towards others (Bogaert, 2006; 2008; Prause and Graham, 2007; Brotto and Yule, 2011) or challenging it by affirming that individuals may move into and out of the category (Hinderliter, 2009). It has also been put forward that asexuality may be best understood as a meta-construct, equivalent to sexuality, including constructs of attractions, desires, fantasies, behaviours, and self-identity even though these may not be related in the same ways for all people (Chasin, 2011).

To accommodate the concept's complexity, other authors have offered more political definition of asexuality.

Kim (2011) considers it as a disidentification with sexuality, emphasizing that both are produced in a specific historical and cultural context. Cerankowski and Milks (2010) also discuss a "feminist mode of asexuality" and, to further explain that concept, draw attention to those who are sexually inactive (but not intrinsically asexual) "whether short-term or long term, not through a religious or spiritual vow of celibacy but through feminist agency" (Cerankowski and Milks, 2010: 659). Przybylo (2011b) creates a rupture with most definitions of asexuality advocating for a rendition of asexuality centred on the capacity of deconstructing and rearranging common ideas of sexuality and relational networks. Therefore, the author proposes that asexuality should be thought of what it does, rather than by what it does not or is not. In Portugal, the scholarly on asexuality is close to non-existent, resulting in very few academic studies on the topic (Lemos, 2011; Campos, 2017; Alcaire, 2015; 2019; 2020; 2021).

I side with definitions of asexuality beyond "lack of" and with the claim that it can be inherently radical, contains the potential for resisting, rethinking and disturbing norms and emphasize the great diversity within the people that identify as

asexual and the importance of allowing the definition of asexuality to remain fluid and more open (Alcaire, 2020). I defend the possibility of other approaches to asexuality that can disrupt and destabilize sexusociety (Przybylo, 2011a). Approaches that define asexuality not as lack of sexual attraction but as “alternative plural enactments” (Przybylo, 2011a: 457).

In a period of less than two decades (since the nought years), asexuality — as an identity, a sexual orientation and a movement — has gained visibility particularly in North America and Europe. This happened because those who identify as asexuals have claimed the status of sexual orientation and of identity for their absence of attraction. Furthermore, it has been due to the proliferation of virtual communities and the work of asexual activists (on the streets, online and in the media) that this political claim has gained momentum.

In Portugal, asexuality enjoyed increased visibility over the last ten years in newspapers, magazines, internet outlets and television talk shows. The collection of media stories that address asexuality is a major part of the repository of publicly accessible information on asexuality on the subject and influence the representations the public might have about the phenomenon itself. This, media attention has generated an internal debate in the Portuguese asexual community more generally, in LGBTQI+ groups and events as well as academically on how asexual

people are interpreted and represented, but also on social representations of sexual diversity in general. The use of the word community in this article, when referring to the asexual Portuguese context, should be taken as meaning a discourse community (Swales, 1990) and a community of practice (Wenger, 1998). In other words, a group of people who share a common concern, a set of problems, or an interest in a topic and who come together to fulfil both individual and group goals. In the same way as in other countries, the proximity between the asexual community and the LGBTQI+ movement in Portugal results from the fact that they operate the same type of discourses, namely those that distance themselves from mental illness, that allow for reflections on identity and belonging and mobilize for collective action.

While asexuality in the media has already been an object of study, the academic literature has focused mainly on television and film representation, particularly in fiction and pop culture: the spectacularisation and fetishisation of the asexual bodies (Cerankowski, 2014), the association of asexual characters to crime (Sinwell, 2014), the equation of asexuality to disability (Barounis, 2014), or the need for the asexual characters to be either sick, dead or lying to be considered real (Marks, 2017) and targets explicitly North American productions.

As such, there is a gap in the asexuality literature regarding longitudinal mass

media news coverage. My research contributes to filling in this gap, in an innovative and timely manner, by analysing the representation of asexuality in the media in Portugal, a southern European, post dictatorial an EU focused country.

In this article, I consider the representation of asexuality in Portuguese print (newspaper and magazines) and broadcast (radio, television and internet) mainstream media. The main objective is to examine if asexuality and related subjects were able to be included in the media agenda, while also defining the terms of the discussion of Portuguese media in the period from June 2001 to February 2017. I examined representations of asexuality present in the Portuguese public media and discussed wider public effects that go beyond the individual and/or collective accounts of this identity. Specifically, I investigate what discourses have been used to address asexuality and asexual people and how the subject has been presented to readers/viewers, throughout the aforementioned timeframe. Mapping the Portuguese media landscape from 2001 to 2017 allowed the signalling of the presence of asexuality and its related subjects and the persistence of discourses about it. Consequently, I identified patterns of representation of asexuality that have emerged from the analysis of these news media pieces that I present later in the article. The repeated ideas that appear in the texts and audio-visual contents reveal a great deal of

the Portuguese media approach to the subject, its possible impacts and, I argue, the dissemination of a type of knowledge about the topic that is often built by the opposition and/or similarity to the norm, as I will explain in the discussion.

Methodology and data collection

To examine the narratives about asexuality that circulated in the Portuguese media, I scrutinized publications and broadcasts from June 2001 to October 2017. The year 2001 was chosen as a point of departure for it is when The Asexual Visibility and Education Network (AVEN), the largest asexual online community (including a community forum with over 100,000 members), was founded by North American asexual activist David Jay. AVEN was formed as an informational resource for people that identified as asexual or people that were questioning their sexual identity, as well as scholars interested in research on asexualities and established a milestone in the process of gaining recognition and visibility for the asexual community. Since its emergence, AVEN has served as a reference point for almost all academic research on asexuality internationally. AVEN was created at a time when there was little information on asexuality. Thus, it created a very important territory for debate and evolved into a space not only of sharing experiences, but also for knowledge production about asexuality (Alcaire, 2019). Its activity

was pivotal to the depathologisation of asexuality, and its removal from the fifth edition of the *Diagnostical and Statistical Manual of Mental Disorders* as a desire disorder (Alcaire, 2015), contributing to the public acceptance of the growing asexual community. AVEN's centrality to the asexual community around the world is so strong that scholars have frequently depended on the site, not only as a resource for information on asexuality but also as a gatekeeper between scholars and asexuals. So much so, that an AVEN team drew up a list of rules for using AVEN for research purposes followed by an "Open Letter to Researchers", offering a number of substantive recommendations for scholars who want to contact registered site members. These documents take positions on several methodological issues and on the process of recruiting and engaging with participants, such as consent, privacy issues, interviewing minors or how to properly quote information from (fixed content or forums) of the site.

The temporal arch of the research ends in October 2017, coinciding with the publication of a very symbolic news piece that integrated the first testimony by a cisgender Portuguese male asexual, not under a pseudonym.

In this approximate 16-year time span, I was interested in registering and analysing the occurrence of the topic, not the frequency it appeared in this array of printed, audio-visual and digital data. I examined what was reported and how

by journalists in different media outlets; tried to understand what the context of production was (if it was a translation of an existing article or an original piece, if it appeared following another coverage or event related to asexuality), for example, and if it had a potential impact in terms of promoting social change.

I started this survey in early 2014 by doing an exploratory retrospective examination of media articles on the subject, using internet and media databases. This first assessment made clear that few articles and no broadcasts included the words asexual or asexuality. Since asexuality is a spectrum, an umbrella term that encompasses a range of identities, is often mistaken for other conditions and phenomena and is a recent concept that has yet to establish itself, it was imperative to be aware of other terms and descriptions to fully grasp the representations on asexuality in the Portuguese media. I expanded the research to encompass other words or expressions: the absence of sex, lack of attraction, lack of desire, frigidity, abstinence, celibacy, virginity, and vocabulary on the lexicon of asexuality, such as aromantic (not romantically attracted to or desiring of romantic relationships at all), demisexual (someone who does not experience sexual attraction to another person unless or until they have formed an emotional connection) or grey-a (do not usually experience sexual attraction, but

do experience it sometimes). Another term I searched for was *assexuado/a*. In Portuguese, the correct term is *asexual* but often it is mistaken for the term *assexuado/assexuada*. In the Portuguese language, *assexuado* means one who reproduces without sex or sexual organs; one that reproduces without the union of differentiated cells of the two sexes; one that he has no sex life. The concept of asexual does not confer legal rights to asexual people, but it does so in symbolic terms. It aligns asexuality to other known and accepted orientations such as bisexuality, pansexuality, homosexuality and heterosexuality. Therefore, the erroneous use of the term *assexuado* to mean asexual is noteworthy.

The result of the data collection was a selection of 14 news stories (nine in print media, two television broadcasts, one radio broadcast and two internet articles), accomplished from four main sources: 1) The internet, namely the individual online archives of the main Portuguese newspapers, magazines, television and radio stations available on their websites; 2) A public relations and marketing service that monitors and analyses media; 3) Lisbon Newspaper Library to confirm dates, check for the placing and page occupation of printed articles and to see if the cover of that edition had any reference to them; 4) Media produced following asexual activism related activities.

From the global results, I removed articles that were issued in LGBTQI+ or

Sexology related publications or websites. In this manner, I could screen news related content disseminated solely through mainstream Portuguese mass media.

The pieces that were identified as pertinent for scrutiny were scanned or downloaded and archived by date. Electing a chronological principle as the main lens proved to be the most pertinent for the enquiry at hand, namely in understanding if there were any (social, political or cultural) changes throughout the defined period, towards the way asexuality and related subjects were interpreted and represented. All the articles were read/listened to/viewed methodically numerous times. The radio and television broadcasts were fully transcribed to facilitate my analysis and to detect differences and changes over time, namely in terms of the language used, the main actors involved and the types of images broadcast. Codification was made concerning the subjects addressed in each one of them, the way these subjects were structured and developed throughout, what were the keywords, whose authorship (hence, authority over what was written or said), main participants, which media outlet was responsible for its transmission, which section it was assigned to (health, society, lifestyle, sexuality, LGBT issues, behaviour...) and which was the context of the publication. Also, what title and subtitle were chosen for the article — what were the words selected to define

the story and capture the audience's attention. For printed materials, I also paid attention to page occupation (brief mention, part of the page, full-page). Likewise, I was interested in knowing whether there was any photograph or infographic in the article, and if so, what image was chosen and what did it show. Consequently, in my database, each of the press articles includes information on the following categories: media outlet, date (day, month, year), title (pre-title and subtitle, when present), section, pictures/graphics, author, placement on the page, highlight on cover or timeslot of broadcast and existence of online version, and — when possible — the reason for publishing. I also included two other categories: guests/sources cited; and their presentation by the media. The analytical corpus selected for this research is composed of opinion columns, newspapers, magazine and internet articles, and television segments of morning shows and radio show specials.

Considering the number of items in my database and the number of media outlets that were responsible for their publication, it became clear that to comprehend the representations of asexuality in the Portuguese media I could not compare like to like and it became more relevant to examine all the pieces found and critically analyse their content.

In this analysis, I will draw from several studies. Although insufficient, Lasswell's model of communication

(1948) is a valuable contribution to identifying the key elements of the Portuguese media representations of asexuality. Lasswell produced a model that can be summed up by the question — “Who says what in which channel to whom with what effect?” — directed towards a wider understanding of the media, breaking up the communication process into its essential components and formulating an interpretation of the relationships between them. Lasswell's approach suggests that each of the components he identifies have equally important implications for the outcome of the communication process. For that reason, I analysed not only the content of the different news pieces but also the motivations of those who created and distributed them and the limitations of the medium that did it. The Lasswell model applies to all manners and forms of communication and all types of medium.

As previously stated, this model falls short for this (and other) analysis for communication is not a one-way linear process in which the sender has all the power over the message and the receiver is a passive recipient. Recipients do not just receive messages. They might also engage actively with the content, drawing on their existing identity and surroundings to produce their interpretations and reactions to what the senders present them with. In that sense, the construction of meaning must be seen as a joint project between senders and receivers. Recipients

also can influence the messages sent to them by their delivery of different types of feedback to senders (Fiske, 1990). Therefore, mass media are sensitive to audience responses.

The methodology and type of analysis that I chose to carry out draws from the aforesaid asexuality studies texts (Cerankowski, 2014; Sinwell, 2014; Barounis, 2014; Marks, 2017) and has too been informed by *Policing the Crisis* by Hall et al. (1978). This media studies classic centres on the moral panic around mugging in 1970s English cities. The authors considered press coverage of a 1973 court case in Birmingham (United Kingdom) to compare how the story was framed: examining the elements in the articles that were chosen as key news angles — as expressed in the headlines —, perceiving who was considered a primary definer of events, chosen to frame the case in context, exploring how the story was structured and focused around particular concerns, what explanations were offered in editorials and how language and typifying labels were used in feature material. Hall et al. suggest that a crucial way in which the media engage in ideological discourse favourable to the dominant forces in society is by privileging the voices of figures such as politicians, employers, the police and so-called experts who become primary definers of events, and whose “primary definitions set the limit for all subsequent discussion by framing what the problem is” (Hall et al.,

1978: 59). For the authors, the hierarchy of power in society is reproduced in the media as a structure of access “systemically skewed concerning certain social categories” (Hall, 1986: 9). Mainstream media news coverage privileged the interpretations of the powerful because “the hierarchy of power perceived by journalists reflected the structures of power in society” (Manning, 2001: 138).

Therefore, it is impossible to study media in isolation, as if it were a detachable part of wider social processes. The connections between media and society work in several directions. Media processes are part of the material world, yet we must also capture the force of the mystifications that media generate or, less pejoratively, their contribution to the “social construction of reality” (Berger and Luckmann, 1966). Media, like the education system, are both mechanisms of representation and source of taken-for-granted frameworks for understanding the reality they represent.

Given the multimodality nature of the media discourses and representations I analyse (text, sound, image), I also draw on the work of Wendy S. Hesford (2011) on how the visual aspects of human rights advocacy influence audiences.

I was also a member of the three Facebook groups (two secret groups with seven and 32 members, formed in 2014 and a private group with close to 250 members, formed in 2015) that gather people in Portugal that identify on the

asexual spectrum, therefore being able to access privileged data and information. The groups were created in an activist context of a search for a common identity. Being part of these groups, fully disclosed as an academic, allowed me to be informed beforehand and to take part in asexual awareness activities, group decision making processes and to have access to documents before they were made public. This ‘double-agency’ (Santos, 2012) as both an academic and an activist also offered a unique opportunity for tracing the process of appearance of the asexual community and asexual collective action in Portugal, as well as media representation on the subject.

Results

In the Portuguese context, the media played a pivotal role in the relationship between the newly formed asexual community and the wider audience. Firstly, because the strategy of conquering visibility that happened internationally is followed with the same political implications, nevertheless, not with the same political impact. Likewise, the increasing media coverage on asexuality and the arising collective action depicted in them triggered people to start contacting “Assexuais em Portugal” Facebook page, at the time. Also, this visibility in the media played a part on how one might come to view the phenomenon itself (Alcaire, 2021).

Taking this selection of news fitting to the chosen period as a case study, I tried to grasp in what ways asexuality was approached, what values and attitudes were transmitted, and who or what contributes to the affirmation of those values and attitudes. In a time when sexuality is so firmly related to the self-making and self-invention as well as to dominant ways of the regulation (Weeks and Holland, 1996), I have examined the media for different discursive and representational ways of seeing asexuality, symptomatic of and eventual change of how it is perceived.

Before 2004, asexuality was not mentioned by the Portuguese media. Several reasons can concur to elucidate this circumstance. AVEN started in 2001, and only subsequently did the community around it and the concept start to form. The first activities developed by the community were limited to the online arena, and because the aspirations of asexuals did not imply public activities that drew attention to them, as is the case of the LGBTQI+ community, neither did their identification of absence of sexual attraction entice public or media scrutiny, either positive or negative. Hence, I argue that it was not already an established notion at the time, and the number of people outside of the United States of America who were familiar with the concept — which implied access to the internet and some degree of knowledge of how to search for and access specific

types of content — was residual. As a consequence, few to none would know the concept and identify as asexual. Altogether, these factors created a void in the Portuguese public sphere on the subject, before 2004 (data of the first article I was able to locate). Since then, there has been an increase in media coverage about asexuality (and related topics) from 2014 onwards, and it contributed to change how human sexual diversity is approached in Portugal, namely:

- The Pride Marches manifestos, flyers and glossaries on sites of LGBTQI+ organizations started to include references to asexual or asexuality;
- Academic work on LGBTQI+ diversity, LGBTQI+ youth, etc., started considering asexuality;
- Portuguese websites, blogs and other outlets connected to the Portuguese LGBTQI+ movement started showing interest in the subject and asked for contents to share with their readers or people to interview (*Rede exaequo*, *Dezanove*, *Novamente LGBTQIA*, *Sociedade Portuguesa de Sexologia Clínica*, etc.).

Discussion of findings

The increase in invitations by the media to grant interviews in news pieces they wanted to publish made the asexual community reflect on its public presentation, discussing which media outlets they wished to participate in,

under what conditions, who speaks, who shows their face, and which messages should be conveyed to the audience. As a result, what comes across is an emphasis on narratives of health and happiness, separation from ideas of trauma, illness or concealed homosexuality, etc. At the same time, there is a conscious or unconscious reproduction of the discourse produced by social networks and online communities, mostly AVEN.

This posture represents a choice to distance themselves from the myths and preconceived ideas about asexuality and about asexual people and build knowledge on what they believe it to be, according to AVEN and to their own experience. At the same time, it shows a reaction to their first participation in the media and the stern criticism they were subjected to, and their relationship with their family, namely having done their coming out or not, on how the fact that they identified as asexual was faced within their relationship. For example, the interviewee that participated in one of the newspaper articles was offended and fat-shamed in the comment section, with some readers attributing the interviewees asexuality to the fact that they were “ugly and fat”. They had previously participated in a podcast and in another news article where they did not show their face or use their last name. This news article where they revealed their name and image for the first time was a very important moment for it represented their coming

out (after disclosing their asexuality to their father). Since that moment, they have never accepted to take part in the media again. This shows identity management made by each person that has reflections on collective identity and action.

In line with Santos (2008), I consider this stance tends to distance activism, in this case, asexual public collective action, of a central role in deconstructing and challenging the dominant heterosexist and heteronormative frame, representing a distancing from the queer project. People that identified as asexual and as polyamorous did not want to participate in the media. People who identified as asexual and were in a relationship that involved sexual intercourse with their partners did not want to participate. People perceived as being male did not wish to participate. All considered that their subjectivities were not an accurate portrayal of asexuality and could not convey undeniable facts of asexuality's existence, thus miseducating the public and troubling the increasing visibility to build shared meaning and acceptance for asexuality. The underlying assumption is that they cannot speak with authority.

The decision of some self-identified asexuals that were engaged in the Portuguese community not to participate is essential to consider. Even though it was transmitted individually when an invitation to participate in a media piece, the general idea was that their lived experience was not adequate to

the concept of asexuality. This shows a reflection and a strategic decision concerning how asexuals in Portugal wanted to divulge their individual and collective identity. In search of a core cohesiveness of what asexuality should be, this calculated choice promotes, in a not always conscious way, the creation of an internal normativity that is supported by a strategic essentialism.

As a result, the image of asexuality that is portrayed in the Portuguese media is a normalized one, often easy to digest for the general audience: white, young, female, family-oriented, monogamous, healthy and happy. Most recent coverage on demisexuality and asexuality is contributing to change this monolithic idea (Demisexuality: desire only happens when there is affective connection, *Diário de Notícias*, 1 February 2017; Being happy without sex, *Lux Woman*, October 2017). Nevertheless, this image of asexuality is important, for it is accessible to the public and created mainly by those who identify as asexual and describes a reality that was unknown or known residually and associated with several myths and erroneous ideas. At the same time, it creates a monolithic image of what asexuality is supposed to be that sets aside intersections, assemblages, vulnerabilities and the richness of the subjectivity that people can bring to the table. These subjectivities are considered as not belonging or not acceptable in the public sphere for they bring a lack of verisimilitude.

As a member of the three Facebook groups that gather people in Portugal that identify on the asexual spectrum, I have witnessed or taken part in discussions amongst the participants in these groups on which invitations to accept, on who should take part in the news stories and who should answer questions. Those discussions had no intention of creating a “rule book” on how to act towards the media or how to act in any public events. Nonetheless, it created a set of assumptions of what asexuality should be and extra attention on not creating interference on that idea, which happens many times and in a strong way comparable to the difficulty to reveal one’s visual identity in the news story. These decisions have repercussions on how asexuality and asexual people are represented and apprehended by the public.

The titles and images

The overall placement and choice of content is noteworthy. Titles and images are usually the first contact and first impact that readers have with the subjects addressed by the articles and help create ideas that are sometimes hard to break. In several articles, the choice was to use database pictures, and we rarely find photographs purposely taken for each particular news story (the interviewees appear in just three of them: (In)visible asexuality, *Jornal de Notícias*, 29 June 2014; Asexuals do not feel attraction

and are happy that way, *Público*, 16 July 2014; Demisexuals: desire only happens when there is affective connection, *Diário de Notícias*, 1 February 2017).

The titles of the articles make evident that, when it comes to language, what seems to be at stake is not a claim for the right to non-discrimination and for visibility, but the search to frame asexuality into something familiar and heteronormative. Asexuality is announced as something similar to the norm, by naming several aspects that are considered to be part of the norm: families, children, falling in love.

This is also aided by the fact that asexual people are not appearing in public with concrete claims to legal rights, but with claims for recognition as an identity, as a sexual orientation, for visibility, and the freedom to choose the way they want to live their intimate life and the recognition of the many ways of being in relationships that exist and that are silenced.

Both the titles and the images (photographs, illustrations, infographic) that are present in the press articles seem to reinforce the patriarchal way of thinking and gender binary. There are repeated mentions that it is not a menace to the patriarchal system: “they still want a family”, “they want a relationship”.

Language

Asexuality disrupts language, and when language is disrupted, it becomes a

mark of difference. Hence, the concept of *a-sexuality* is often included (sometimes forced) by the language of sexual desire, a language system so structured around sex that it limits the ways in which asexuality can be talked about and understood. Sex is, at present time, so discursively central to lives that those who do not feel sexual attraction might have few resources to describe their multi-layered, complex and unique relationships and feelings. Therefore, I argue that the dominant culture is inadequately equipped for the task of making sense of asexuality through the lenses and languages of sexual normalcy. Not only can the existing language system not reserve a place for the asexual, but it also converts the understanding of the asexual into the language of sexual desire. Unable to bear difference, the difference is transformed into sameness and converts the other into the familiar. Nevertheless, the most recent articles in the database and others published after the period considered here, are interested in emic and folk categories connected to asexuality.

The television interviews in the database provide a good example of the use of language by placing interrogations about “are you”, “have you”, “do you” followed by something (considered) sexual (“gay”, “aroused by”, “masturbate”) (Asexuality: what is it?, *Queridas Manhãs*, SIC, 25 August 2016). Even when these questions are purposely deviated by the person being interviewed, they

are typically turned back onto them to eliminate any possibility of sexual presence. As if the interviewers can only make the asexuals believable and understandable through the terms of sex and its absence. In other words, when it becomes visible and audible, asexuality demands sexual explanations.

Public images

I do not consider that, as it happens in North American media, asexual bodies are made spectacular (Cerankowski, 2014) in the Portuguese media. Asexuals are not sensationalized as it happens with other sexual and gender dissidents whose difference from the norm is measured as more of excess, rather than a lack. Trans people are often hypersexualized and fetishized as exotic sexual objects, as opposed to asexual people who are sexualized because it cannot be imagined that the person cannot desire sex (referring to the more common-sense assumption of what asexual means). Asexuals may become objects to conquer (“they have not met the right person yet”), but they are not hypersexualized because of pre-existing eroticism that has been constructed around them, as in the case of trans people, gays, lesbians, and bisexuals. Rather, asexuals are made sexually visible because they have been deemed “unimaginable” (Cerankowski, 2014: 295).

Notwithstanding the different styles and angles adopted by the various

analysed pieces, the Portuguese press produced a remarkably similar public image of asexuality that, amongst other things, acted to terminate any debate before it could go beyond the boundaries of the dominant ideological field (Hall et al., 1978). The outcome is a “powerful and compelling form of rhetoric closure”, involving the reproduction of “public images” — clusters of impressions, themes and pseudo-explanations — in place of an analysis of underlying structural forces in society (Hall et al., 1978: 118).

Health and happiness

One of the patterns that most quickly stood out from the analysis of this database is the idea of happiness (Asexuals do not feel attraction and are happy that way, *Público*, 16 July 2014; Being happy without sex, *Lux Woman*, October 2017). Although it seems, at first glance, not to be a statement, this identification is very present in the discourses of both asexual and LGBTQI+ movements and communities. This connection to happiness can and should be understood as a revolutionary act against the dominant narrative linking non-normative orientations and identities to shame and sadness these non-normative groups have always been forced to. It must also be seen as an astute strategy to combat the premise of the impossibility or unlikelihood of asexuality. But for this analysis, it is more interesting

to note the parallel path to this, which can have perverse effects. Happiness, like health, is a complex concept that can very easily fall into the discourse of “normality”. As Ahmed (2010) warns us, happiness often reinscribes culturally valued norms and supports social heritages. Ahmed urges us to consider that “Rather than assuming happiness is simply found in ‘happy persons,’ we can consider how claims to happiness make certain forms of personhood valuable.” (Ahmed, 2010: 11). By extension, claims of asexual happiness and health seem to confer other (queer) forms of affection on non-normative relationships of lesser validity.

Who speaks? The “experts” as a primary source

Media portrayals of asexuals often prevent them from having agency by constructing their narratives. That circumstance can create an obstacle and an epistemological resistance to reading alternative sexual identity representations and can lead to the construction of hostile spectators. A deeper and more nuanced understanding of how visual spectacles reinforce — rather than resist — sexist, paternalistic and oppressive western ideologies is necessary.

This concept of primary definition which sees journalists as secondary definers has subsequently been criticised for downplaying some complexities of relationships between journalists and sources. However, acknowledging the

complexities involved in such relationships, and noting some exceptional instances in which alternative explanations have achieved prominence in the media, does not disprove the existence of a tendency for the powerful to enjoy routine advantages in news access (Manning, 2001).

An episode that took place before the broadcast of a television show I was invited to be part of helps sum up this idea. When the invitation came about, I was contacted by one of the show's producers to discuss asexuality in a pre-interview. The pre-interview took place by phone and was expected to last no more than 10 minutes. The producer showed great interest on the subject, asked several out of the box questions concerning context, history and the testimonies that I gathered. By the end of the phone call, more than half an hour later, she opened up on how researching the topic of asexuality had made her rethink several aspects of sexuality and relationships and how it was so important to address them in a show that reached so many people, namely older people, that might never have heard of the concept and would identify as asexual. I informed her that due to overlapping engagements I might not be able to attend the show but was available for any questions and contacts needed. The producer told me not to worry because, whether I was able to attend or not, an expert would be present at the studio: "We would always have a psychologist or a psychiatrist present, to properly frame the subject."

Also noteworthy is that asexuals who speak in the press do it from a privileged space that is heard and understood. For example, one of the asexual persons that often participated in the selected media had higher education in the health and biology areas, so was quick and able to refute biological and evolutionary explanations with which she is confronted in interviews and public lectures on asexuality and the misuse of language. The idea of the acceptable and otherwise normative asexual has not sparked debate in the Portuguese online community. Internationally, it has. In 2011, the terms "unassailable asexual" and "gold star asexual" were coined to refer to the asexual who presents as normative, able-bodied, trauma-free, cisgender, conventionally attractive, sociable, and thus theoretically cannot have their asexuality denounced through pathological means. That is the choice of speaker. This creates a bias on the way asexual persons are portrayed in the public sphere and silences other lived experiences within the community.

Visibility is the key. Visibility is a trap

Media visibility potentially exposes the public to the concept enabling those who are interested in or identify with asexuality to come to terms with the fact that there are more people like them and that they could join groups of people. But it also places asexuality before the public eye.

Nevertheless, visibility may not

always be beneficial and may not produce the desired results. It may fail to educate, it may create a spectacle of fascination and entertainment that leads to a displacement of desire rather than understanding and a new comprehension of asexuality (Cerankowski, 2014: 288).

Often in these media spots, with the announcement of their asexuality, asexuals are met with reactions of incredulity by the interviewers ("You have to bring us someone like that to the studio") or are pathologized by expert discourses ("There are also some pathologies, some diseases that make the person have less interest in sexual intercourse, or less sexual desire, right? There are some pathologies of desire, right?"). Contrary to this effect, the community's goal of identity and visibility politics invested in the expectation that visibility is always instructive and empowering. It can also produce a paradox: visibility projects can simultaneously raise awareness while failing to result in education and comprehension of a given identity.

Changes

We can quickly trace the big picture: the subject has started to get talked about, discussed in several outlets, and approached constructively. And even though there is a danger of spreading erroneous ideas about asexuality, amongst asexually identified people there was a consensus that journalists and television

presenters they talked to had positively surprised them and felt that space was being conquered that allowed them to correct those mistakes by providing more evidence-based knowledge and lived experience information. Taking the past few years into consideration, the scale was pending towards the positive side (to use their own words), although still with much to work on. There was a wave of interest on the subject in the Portuguese media, which allowed at least for the increase in the number of people who have heard or read something about asexuality, a good starting point and great contribution to anyone who is asexual and did not know of the concept or of the existence of groups. Important steps were taking place to end the enormous invisibility that, from where they stand, is what damages the community the most at this point.

Still, there is always work to be done: on the one hand, because the media is going through a clickbait period that in no way helps incite proper media and public discussion of delicate or unknown topics. On the other, because in the media about asexuality many myths persist, or there is a very narrow approach to slices of experience, leaving aside many others within the spectrum.

Absences

Having the different patterns that I have identified in mind, pinpointing several important absences is possible.

There is an urgent need for more articles focusing on self-identified asexuals that describe themselves and their lived experience in their own words. Using self-identified asexuals' testimonies helps break several myths on asexuality and connects the readers with stories being told and the people telling them.

At the same time, defining asexuality from how the concept came to be is also missing. Distancing asexuality from jokes, the uncanny, rather focusing on claims and demands and on the promotion of human rights. In this way, asexuality can be defined for what it is, rather than being constantly explained for what it is not.

Focusing the value of the concept on the words of asexually identified people and not on healthcare professionals' (including mental health providers) opinion. Asexual people are the key characters in a story that is theirs, and not told about them.

None of the articles in my database referred aspects that made evident mechanisms that can challenge heteronormative and patriarchal norms that, in some way, approached the queer potential of asexuality and of its disruptive and radical ability to challenge the norm (rethinking notions of family or reproductive strategies, for example). All people portrayed in the articles and broadcasts are white and able bodied. Intersectional narratives are also lacking. Asexual studies have been expanding the understanding of the intersectional

character of asexual identities (Kahan, 2013; Decker, 2015; Cuthbert, 2017). Asexuals can identify intersectionally as lesbian, gay or bisexual in their affective or romantic relationships and trans in their gender identity. Many asexuals identify as cisgender and heterosexual in ways that complicate their claims of widening the LGBTQI+ umbrella. Few media pieces in my database consider the possibility of collective action or connection to sexual education issues. Different facets of online and offline activism should be addressed, focusing both on asexuals that identify intersectionally as LGBTQI+ and those who identify as cisgender and/or heterosexual.

In a patriarchal society such as the Portuguese, cisgender male asexual representation that has only recently come to light in the media (Being happy without sex, *Lux Woman*, October 2017), has an added layer of difficulty that needs to be deconstructed and discussed. That could take place by problematizing the normative scripting of Western society that spreads the hypersexualised worldview that individuals should exhibit attraction to be considered *normal* or be labelled dysfunctional.

Conclusions

As far as the media is concerned, asexuality has been increasingly visible over the last years in Portuguese newspapers, magazines, internet outlets and television talk shows. This collection of

media stories is a major part of the public archive on asexuality and influences the representations the general public might have about the phenomenon itself. Media attention on asexuality in Portugal has generated a discussion inside the asexual community, the LGBTQI+ movement, but also in academia with seminars addressing the subject and research being done (Campos, 2017) and amongst healthcare professionals (Alcaire, 2021) on how asexual people are interpreted and represented, but also on social representations of sexual diversity in general. The major tendency points towards a positive portrayal of asexuality that puts asexual people in the forefront, owning their discourses.

Increasing mass media exposure of asexuality and related subjects was unswervingly connected to two main sources: as a result of asexual activism and as a reaction to media reports. The fact that people who identify as asexuals and their allies went public by occupying the streets, giving interviews and engaging in media narratives about their own identity created an interest in the subject. Periodicals, television and radio stations started scheduling interviews to investigate the different aspects of the subject that went beyond collective public action and the participation in events of great proportions such as parades. As a result, the emerging Portuguese asexual community and the Portuguese LGBTQI+ movement were impelled to reflect on their activity and on the public image

they want to send out (Santos, 2008). Therefore, the community had to make the following choices: which media outlet to participate in; who participates in the news stories created; whose faces the developing asexual message is associated to; to what extent the allies are to be taken into consideration; which types of discourses get privileged (consolidated and disseminated by AVEN, in form of dissertations, for example) and which become excluded regarding the asexual participation in the media. Amongst other effects, the LGBTQI+ Portuguese movement started to acknowledge asexuality in documents and other materials produced by them. Unquestionably, the corpus of materials on the subject has grown, and asexuality has been leaving a significant footprint.

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References

- Ahmed, S. 2010. *The promise of happiness*. Durham, Duke University Press.

- Alcaire, R. 2015. The pathologisation of sexual diversity: a critical scrutiny of the DSM. *Ex aequo*, 32: 155–167.
- Alcaire, R. 2019. *The asexual revolution: discussing human rights through the lens of asexuality in Portugal*. Doctoral dissertation, University of Coimbra.
- Alcaire, R. 2020. Asexuality as an epistemological lens: an evolving multi-layered approach, in Zowie Davy. In: Santos, A. C.; Bertone, C.; Thoreson, R.; Wieringa, S. E. (eds.). *The Sage handbook of global sexualities*, volume 1. London, Sage: 141–159.
- Alcaire, R. 2021. LGBTQI+ healthcare (in) equalities in Portugal: what can we learn from asexuality? *Healthcare* [Online], 9 (5): 583. DOI: 10.3390/healthcare9050583.
- AVEN. 2021. *About asexuality* [Online]. [Accessed in 1-9-2021]. Available at: <https://www.asexuality.org/?q=overview.html>.
- Barounis, C. 2014. Compulsory sexuality and asexual/crip resistance in John Cameron Mitchell's *Shortbus*. In: Cerankowski, K. J.; Milks, M. (eds.). *Asexualities: feminist and queer perspectives*. New York, Routledge: 351–392.
- Berger, P.; Luckmann, T. 1966. *The social construction of reality*. Middlesex, Penguin Books.
- Bogaert, A. 2006. Toward a conceptual understanding of asexuality. *Review of General Psychology*, 10: 241–250.
- Bogaert, A. 2008. Asexuality: dysfunction or variation. In: Carroll, J. M.; Alena, M. K. (eds.). *Psychological sexual dysfunctions*. New York, Nova Biomedical Books: 9–13.
- Brotto, L.; Yule, M. 2011. Physiological and subjective sexual arousal in self-identified asexual women. *Archives of sexual behavior*, 40(4): 699–712.
- Campos, A. 2017. *Trajectos de vida assexuais: uma análise psicológica crítica*. Master dissertation, University of Porto.
- Cerankowski, K. J.; Milks, M. 2010. New orientations: asexuality and its implications for theory and practice. *Feminist Studies*, 36(3): 650–664.
- Cerankowski, K. J. 2014. Spectacular asexuals: media visibility and cultural fetish. In: Cerankowski, K. J.; Milks, M. (eds.). *Asexualities: feminist and queer perspectives*. New York, Routledge: 286–327.
- Chasin, C. 2011. Theoretical issues in the study of asexuality. *Archives of Sexual Behavior*, 40(4): 713–723.
- Cuthbert, K. 2017. You have to be normal to be abnormal: an empirically grounded exploration of the intersection of asexuality and disability. *Sociology*, 51(2): 241–257.
- Decker, J. 2015. *The Invisible orientation: an introduction to asexuality*. Delaware, Skyhorse Publishing, Inc.
- Fiske, J. 1990. *Introduction to communication studies*. London, Taylor and Francis.
- Hall, S. 1986. Media power and class power. In: Curren, J.; Ecclestone, J.; Oakley, G.; Richardson, A. (eds.). *Bending reality: the state of the media*. London, Pluto.
- Hall, S.; Critcher, C.; Jefferson, T.; Clarke, J.; Roberts, B. 1978. *Policing the crisis: mugging, the state, and law and order*. London, Macmillan Press.
- Hesford, W. S. 2011. *Spectacular rhetorics: human rights visions, recognitions, feminism*. Durham, Duke University Press.

- Hinderliter, A. 2009. Methodological issues for studying asexuality. *Archives of Sexual Behavior*, 38: 619–621.
- Kahan, B. 2013. *Celibacies: American modernism and sexual life*. Durham, NC, Duke University Press.
- Kim, E. 2011. Asexuality in disability narratives. *Sexualities*, 14(4): 479–493.
- Lasswell, H. D. 1948. The structure and function of communication in society. In: Bryson, L. (eds.). *The communication of ideas: a series of addresses*. New York, Harper and Row: 37–51.
- Lemos, D. 2011. *Assexualidade: factores de vulnerabilidade psicológica*. Master dissertation, University of Aveiro.
- Manning, P. 2001. *News and news sources: a critical introduction*. London, Sage.
- Marks, B. 2017. *Sick, dead or lying: a critical textual analysis of asexuality in popular culture*. Bachelor degree dissertation, University of Iowa.
- Prause, N.; Graham, C. A. 2007. Asexuality: classification and characterization. *Archives of Sexual Behavior*, 36: 341–356.
- Przybylo, E. 2011a. Crisis and safety in sexusociety. *Sexualities*, 14(4): 444–461.
- Przybylo, E. 2011b. *Asexuality and the feminist politics of 'not doing it'*. Master dissertation, University of Alberta.
- Santos, A. C. 2008. *Enacting activism: the political, legal and social impacts of LGBT activism in Portugal*. Doctoral dissertation, University of Leeds.
- Santos, A. C. 2012. Disclosed and willing: towards a queer public sociology. *Social Movement Studies: Journal of Social, Cultural and Political Protest*, 11(2): 241–254. DOI: 10.1080/14742837.2012.664904.
- Sinwell, S. 2014. Aliens and asexuality: media representation, queerness, and asexual visibility. In: Cerankowski, K. J.; Milks, M. (eds.). *Asexualities: feminist and queer perspectives*. New York, Routledge: 328–350.
- Swales, J. M. 1990. *Genre analysis: english in academic and research settings*. Cambridge, Cambridge University Press.
- Weeks, J.; Holland, J. (eds.). 1996. *Sexual cultures: communities, values and intimacy*. London, Macmillan Press.
- Wenger, E. 1998. *Communities of practice: learning, meaning, and identity*. Cambridge, Cambridge University Press.

Making sense of sewage sludge as a renewable resource in the urban U.S.

Fazer sentido do lodo de esgoto como recurso renovável nos Estados Unidos



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Abstract Prior to industrialization, human excrement was commonly employed as a resource for agricultural production. Following the advent of the hydraulic sanitation system, however, it became increasingly directed into waterways rather than reincorporated into terrestrial agro-ecosystems. To counter this trend, many industrial cities are seeking to use of treated sewage sludge, or “biosolids”, as a renewable resource that can be applied as a soil amendment in urban recreational settings, including parks, gardens, and golf courses. This article examines how the use of biosolids in the American city of Chicago comes to “make sense” — experientially, economically, and ecologically — to users and wastewater experts. Furthermore, it considers how sanitation infrastructures, socio-cultural norms, and health considerations both contour and constrain such usage. Finally,

Resumo Antes da industrialização, os excrementos humanos eram frequentemente utilizados como recursos para produção agrícola. Após o advento do sistema de saneamento hidráulico, no entanto, o esterco humano tornou-se cada mais vez direcionado para hidrovias, em vez de ser reincorporado nos agroecossistemas terrestres. Para contrariar esta tendência, muitas cidades industriais procuram utilizar o lodo de esgoto, ou “biossólidos”, como um recurso renovável que pode ser aplicado enquanto corretivo do solo em ambientes recreativos urbanos, incluindo parques, jardins e campos de golfe. Neste artigo, examina-se o uso de biossólidos na cidade americana de Chicago e como isso chega a “fazer sentido” — experimentalmente, economicamente e ecologicamente — para usuários e especialistas em saneamento. Além disso, considera-se como as infraestruturas de saneamento,

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this article identifies how direct sensorial experiences (particularly of odors or their absence) as well as notions of economic and ecological “good sense” contribute to the social acceptability of biosolids usage. However, contaminants of emerging concern that are barely perceptible in sanitation waste raise more profound questions about the challenges of urban sustainability in this period known as late industrialism.

Keywords: Human waste; sanitation; sense-making; urban sustainability; late industrialism.

as normas socioculturais e as considerações de saúde influenciam e restringem esse uso. Finalmente, este artigo identifica como as experiências sensoriais (particularmente de odores ou sua ausência), bem como as noções de “bom senso” econômico e ecológico, contribuem para a aceitabilidade social do uso de biossólidos. No entanto, os contaminantes de preocupação emergente, que são quase imperceptíveis nos resíduos de saneamento, levantam questões mais profundas sobre os desafios da sustentabilidade urbana neste período conhecido como industrialismo tardio.

Palavras-chave: Dejetos humanos; saneamento; fazer sentido; sustentabilidade urbana; industrialismo tardio.

Introduction

Is human waste really just “waste” or might it be something more? Prior to industrialization, human excrement was commonly employed in agrarian communities as a resource for agricultural fertilization. This practice has a deep history in many parts of the world — from the Amazon to East Asia — dating back thousands of years (Kawa et al., 2019). Following the advent of the hydraulic sanitation system, however, human bodily excesses became increasingly channeled into sewers and waterways rather than reincorporated into terrestrial agro-ecosystems (Benidickson, 2011). To counter this trend, many industrial

cities have sought to utilize treated sewage sludge — now referred to as “biosolids” — as a renewable resource. While most beneficial use of biosolids is for application on rural agricultural lands, this article examines how the city of Chicago (among other cities in United States) has begun to direct more and more of its biosolids into urban recreational settings, including public and private golf courses, municipal sports fields, urban landscaping, and city parks. What this research seeks to address is how the adoption of treated sewage sludge as a renewable resource comes to “make sense” experientially, economically, and ecologically for both urban users and wastewater treatment experts.

In this article, I situate and theorize the use of biosolids within a growing body of scholarship known as “discard studies”. Max Liboiron (2018) characterizes this area of study as centering on the “wider systems, structures, and cultures of waste and wasting” rather than fixating on individual forms of waste or trash as primary objects of study (see also Arefin, 2015). Discard studies thus prompts inquiry into social norms and cultural logics that perpetuate distinct forms of wasting as well as investigation into the broader political economy of waste, including how late capitalist markets find new forms of value in human-produced discards. One might note that social scientific researchers are not following far behind, discovering new sources of scholarly value in the analysis of diverse forms of waste and the social systems that produce them, including many that until recently were either ignored or overlooked: e-waste (Lepawsky, 2018), dumps and landfills (Millar, 2018; Rathje and Murphy, 2001; Reno, 2016), residential garbage collection (Nagle, 2013), marine plastics (Liboiron, 2021), and desiccated fecal dust from factory farms (Blanchette, 2019), among many others (see Hawkins, 2006).

This article seeks to contribute to this body of scholarship by examining how distinct forms of sense-making, including embodied sensory experience (e.g., Harrison, 2000; Kiechle, 2017) but also social values and cultural logics (Douglas, 1966; Reno, 2018), work to either support

or contest the use of treated sewage sludge as a resource. Specifically, I ask: how do embodied sensory perceptions — primarily smell, but also sight and sound — contour biosolids use in urban recreational settings? Furthermore, how do users’ understandings of what is economically and ecologically “sensible” influence their willingness to adopt and use this resource? Lastly, how do safety threats present in sewage sludge that are only barely perceptible (e.g., industrial chemical compounds and contaminants of emerging concern) represent challenges to biosolids use and social acceptability?

I approach these questions through the examination of three sites: an urban golf course, a biosolids compost pick-up location, and a multi-use city park. These three sites capture some of the diversity of biosolids use in Chicago as the city moves beyond a strict reliance on rural agricultural application toward wider urban usage. At these sites, I draw upon participant observation and semi-structured expert interviews (n = 10) with golf course superintendents, wastewater treatment workers, soil scientists, and environmental chemists to discuss the productive applications and practical problems encountered when using biosolids in urban settings. Through this examination, I show how biosolids-enriched landscapes can serve to extend the pleasures of urban outdoor recreation and ecological appreciation. This is largely possible through Chicago’s

expanded production of “exceptional quality” (EQ) biosolids compost that significantly reduces unpleasant odors and is made freely available to users — from park districts and golf courses to individual homeowners and city residents. Despite the appeal of the EQ compost and the ways that its use makes “good sense” to adopters, the application of biosolids also raises alarms from some urban dwellers, particularly in relation to emerging contaminants and unregulated industrial compounds that can be present in these materials. While the potential impacts of these contaminants on human health are uncertain (and sometimes wildly speculative), the use of treated sewage sludge as a resource in urban green spaces raises broader questions about sustainability under late industrialism — a period that Kim Fortun (2014) describes as significantly limited by existing constructs to capture “the complexity and current state of ecological systems” as well as the “complex relationship between ecosystem and human health” (Fortun, 2014: 311). To put it succinctly, late industrialism exceeds our conceptual grasp in large part due to the very excesses and accelerated outputs of industrial capitalist production. Finally, I argue that while treated sewage sludge can offer many benefits to urban residents and makes “good sense” in many ways, it is all the other anthropogenic residues in our sanitation

systems — the increasingly complex and diverse composition of late industrial wastes — that should give us pause. By combining an ethnographic approach to the study of late industrial waste with theoretical insights from discards studies, I highlight how the former helps to make sense of users’ perceptions of value in waste while the latter makes clear the politico-economic and structural limitations of contemporary efforts to recycle sewage sludge and introduce new visions of urban ecological sustainability.

The “invention” of biosolids

In the period leading up to industrialization, many cities in Europe and Asia relied on “night soil” collectors to remove excrement from cesspits and privies, and then spread this nutrient-rich material on agricultural fields in the rural countryside. In the mid-19th century, however, a series of cholera epidemics in rapidly urbanizing Europe — largely caused by fecal contamination of drinking wells — prompted new approaches to the management of human bodily waste, including the development of the hydraulic sanitation system. As sewage treatment became the focus of intensive scientific inquiry, another major break-through occurred in the early 20th century with the invention of the activated sludge method. Under this process, sewage was placed in aeration tanks with large populations of bacteria

and within a few hours of treatment, the bacteria-laden sludge would settle out, leaving nutrient-rich solids and a clear liquid effluent. Similar to a sourdough starter, some of the settled material would then be added back into the aeration tank to treat incoming sewage. This became known as the “activated sludge process” and shortly after its invention, cities across Europe and North America began to experiment with it (see Schneider, 2012: 172). Of course, a significant problem remained: what to do with all the remaining residues?

American cities like Milwaukee and Chicago quickly identified the potential value of treated sewage sludge as an agricultural fertilizer and began to use it as such. Many other metropolitan areas resorted to landfilling, incineration, or dumping of this material into waterways. However, when the United States Congress passed the Clean Water Act in 1972 and then later the Ocean Dumping Ban Act in 1988, the disposal of sewage sludge into oceans and waterways was prohibited and use of sewage sludge became more highly regulated (EPA, 2014). Agronomists and soil scientists argued that returning this material to the soil could offer many productive benefits, but its origins and surrounding stigmas presented obstacles for marketing.

The term “biosolids” was introduced in the early 1990s by the Water Environment Federation as an attempt to rebrand sewage sludge and promote

beneficial use of it, particularly as a soil amendment. The term was adopted by the US Environmental Protection Agency (EPA) in 1992 and it has stuck ever since. Under US federal guidelines, there are two distinguishable grades of biosolids: Class A and Class B (EPA, 2014). With Class A biosolids, pathogens must be reduced to undetectable levels and strict standards are applied concerning the regulation of heavy metals and offensive odors. This class of biosolids can be applied to land without restrictions and is frequently sold as a fertilizer or compost to ordinary homeowners and gardeners. Class B biosolids undergo treatment and must meet the same regulations with regards to heavy metals, but they are allowed to contain marginal levels of detectable pathogens and odors. For this reason, they also require EPA permits for their use on agricultural lands. Still, many large-scale agricultural operations use Class B biosolids, particularly for the production of commodity crops, such as corn and soy.

Today, many different US cities have marketed their own distinct brands of Class A biosolids, including Milorganite from Milwaukee (Wisconsin), Tagro from Tacoma (Washington), and Dillo Dirt from Austin (Texas). Recently, the Metropolitan Water Reclamation District of Chicago has developed its own class A compost product, referred to as EQ (“exceptional quality”) biosolids. With the introduction of the EQ compost, more and more of the city’s biosolids are being directed not

to farmer's fields but rather to outdoor recreation areas and green spaces in the heart of the city. In the sections that follow, I examine how this use has come to make sense for different urban users in Chicago, including those managing golf courses, home gardens, and city parks.

Site 1: The golf course

The day before the world entered into lockdown due to the novel coronavirus pandemic, I was on the phone with Steve¹, a superintendent of a public golf course on the southside of Chicago. Steve had been indicated to me by an environmental scientist working for the city and I was told he was someone with expertise in the practical application of biosolids. Although my initial research interests centered on the use of biosolids in agriculture and urban gardening, I had begun to find more and more cases of it being applied on recreational sites in the city, including social spaces marked by distinctive class privilege, such as country clubs and golf courses. The simple idea that the city's shit was working to sustain elite forms of recreation, like golf, seemed to call for further investigation.

At the onset of our interview, Steve told me: "I kind of come to golf course management from an environmental perspective". He elaborated on this point,

noting his advocacy for planting native prairie grasses and other vegetation in "the roughs" of the golf course while also committing to minimal use of pesticides. "You know, we still have to have a golf course", he joked, "so, you can't get away from using pesticides, but you can make your footprint as light as possible". And through this environmental approach, Steve had developed something of reputation in his professional field.

In 2005, Steve's golf course had become part of a biosolids study, led by a researcher from the University of Illinois along with soil scientists from the Metropolitan Water Reclamation District (MWRD) of Chicago. The District funded the study and provided the resources to comparatively assess the application of synthetic fertilizers alongside the city's biosolids. Steve explained that the golf course he managed had disturbed soils with heavy clays and very little topsoil, and ultimately what the research showed was that biosolids served not only as a good fertilizer, but also a good soil amendment. It even helped, he noted, with some diseases that were more prominent on the course in areas that suffered from low fertility. And, best of all, it was free: "The fact that I was able, and still am able to call up the water reclamation district and say 'hey, send over 13 semi[-truck] loads' and it literally would show up in a couple days in our parking lot. And it wouldn't cost me a dime."

However, Steve did elaborate on some of the problems he experienced

¹ All names of interviewees in the text are pseudonyms.

with biosolids use too. Specifically, we got into the issue of managing odors. While the city had worked diligently to minimize undesirable odors in biosolids — because this is widely known to be a primary barrier to adoption and acceptance of use (see Lu et al., 2012) — Steve told me that there were marked differences between the city's different biosolids products. Biosolids that were only air-dried had a better profile for use as a fertilizer — or at least, the effects were more noticeable — but the odors posed a significant problem. "The air-dried, when it gets wet... [it gives off] a total barnyard, cattle lot smell", he observed. Steve explained that he could not reasonably use air-dried biosolids during the golfing season because, in his words, "it's objectionable to our players". Not to mention, he said, golf shoes pick it up and golf cart tires do too, which can end up making a mess. For this reason, Steve and his team made the decision to only apply air-dried biosolids in the off-season when golfers were not present. This contrasted significantly with the EQ biosolids compost Steve told me "smells like any other compost", and does not call negative attention to itself. For that reason, it could be applied during the active golf season without concern.

I then asked Steve if the use of biosolids was something that many golfers at his course knew about. Or, like most people in the city, "are they largely unaware of its presence"? I wondered out

loud. He responded by saying: "We tout the fact that we use it." In fact, Steve told me further: "if you visit the course's webpage, you can find information about biosolids application", along with other efforts the golf course is making to "go green".

These latter comments from Steve demonstrate how the ethos of environmentalism, or "going green", can be leveraged to justify the use of biosolids on the golf course, or other similar recreation sites in the city. But as his other comments also revealed, such environmental or ecological arguments are supported by the political economy of sanitation waste management in the city in which biosolids are provided free of cost to users, including golf courses, park districts, community gardens, and individual residents. This may also help the water reclamation district reduce some of its operating costs over the long-term by applying more of its material within the Chicago metropolitan area rather than transporting it to more distant rural areas. Not to mention, MWRD's compost program — and the infrastructural investments that came with it — have rendered biosolids more acceptable for general public use. Or, at the very least, composted EQ biosolids rarely raise any direct concerns related to the presence of noxious or unwanted odors. In the context of Steve's golf course, it would seem that as long as the application of biosolids does not disrupt players' enjoyment of the course, then the use of biosolids allows the

course and its superintendent to promote an ethic of ecological sustainability and do so “for free”.

Site 2: The “bring-a-bucket” compost pile

A year after COVID-19 had disrupted nearly all facets of life, I made a brief visit with a group of environmental scientists at the Metropolitan Water Reclamation District in Chicago to understand how the pandemic was affecting their work and operations. I was received by Walter, a soil scientist who had been working with MWRD for over a decade, and he was eager to show me a recent development on a lot adjacent to the city’s largest

wastewater treatment plant: the “bring-a-bucket” compost pile (Figure 1).

There, EQ biosolids compost was made freely available to residents in the area. People were able to come with their buckets and fill as much as they could fit into their cars, trucks, and SUVs. Prior to the pandemic, Walter explained, the district had upwards of three years of compost that had been stored and stockpiled. But as people spent more time in their homes and gardens during the pandemic — planting vegetables, flowers, ornamentals, and landscaping — the demand for the EQ compost grew very quickly. Within a year, the stockpiled compost had been completely exhausted.



Figure 1. The “bring-a-bucket” compost pile — a site where the Metropolitan Water Reclamation District (MWRD) of Chicago provides free exceptional quality (EQ) biosolids compost to residents of the area.

It seemed that word had finally gotten out into the community. “Of course, the fact that it is free definitely helps”, Walter was quick to note.

While Walter and I were visiting the bring-a-bucket compost pile, a man who had driven over in a blue Honda CRV was methodically scooping compost with a shovel and loading several large black bags in the back of his car. From the perspective of the water reclamation district, Walter explained, the free compost had created a sense of goodwill in the community, providing local residents with a product of recognizable value and utility. He told me that the long-term plan was to have similar sites at all seven facilities that MWRD managed, with the hope of making the EQ compost more accessible to residents all across the city. Previously, he mentioned, residents were able to make bulk orders and have compost delivered to their homes. But as demand had risen, the piles would save the district the hassle and cost of transporting the material and now residents could come and pick it up on their own.

Prior to our visit to the compost pile, Walter and I had met with two other researchers — Chen and Erica — from MWRD to discuss the district’s biosolids program and its long-term vision. Chen told me that there was “a paradigm shift” in how they engaged with the public on questions related to biosolids, with much greater emphasis on outreach.

He mentioned, for example, how they had begun producing quarterly public newsletters and giving out annual awards to notable community partners. The district also provided teaching materials for elementary schools about the city’s sanitation system and the management of water resources. With the COVID-19 pandemic, they even provided virtual public tours of the facilities, guided by senior wastewater treatment workers and managers. Erica, the most recent member of the biosolids team at MWRD, added how the president of the District was active on social media too, reaching out to new audiences on platforms like Twitter. These were all different ways, Erica shared, in which the District was trying to make public outreach a bigger part of the work they do.

I then asked the researchers to what extent the expansion of urban application was part of their long-term goals. Chen explained that the bulk of biosolids (at least half produced by MWRD) would continue to be directed to rural agricultural applications, but in the past decade or two, urban use had increased significantly, including application at parks, sports fields, and golf courses. Still, Erica told me that “there can be some hesitancy” when discussing the possibility of applying biosolids at park districts where they have not worked before. “Odor is a big concern”, especially for park districts, she observed. For example, one contact at a

local park district accompanied them to another park district's facility to get her own exposure to the material (and its potential odors) before committing to applying biosolids in her own district. Another district, Erica told me, was going to apply it near their town hall but wanted to make sure that "the smell wouldn't offend the mayor".

For those reasons, "it's important to have a good spreading contractor", Erica told me. She explained how one community partner had praised the "meticulousness" of their contractors after they applied material on some athletic fields in a local park district — the contractors ensured that walkways and pathways were cleared and that all that material ended up strictly on the grass. Attention to these little details were important for maintaining a good public image of biosolids. "It's not just where it is applied but how it is applied that matters", Erica suggested.

Our conversation then returned to the EQ compost and why it was important for biosolids use and "sensemaking" in the community. Walter explained to me: "the compost is really critical to our program. Its grassroots based... the residents come and pick it up, and those same residents recommend it to the park districts". Erica interjected to underscore that "it doesn't smell either". To which she added a striking assessment: "I feel like it's an ambassador for us... it's more expensive to produce but it creates a good image for us, and it really speaks for itself."

If EQ compost is understood as a kind of ambassador or representative of the district's biosolids, then it is worthy of underscoring not only what it offers for residents but also what it does not do, particularly as potential users weigh its risks and benefits. As described above, it is a free resource for gardening and landscaping, which is especially welcome at a time when many households are facing isolation and economic insecurity due to the coronavirus pandemic. But it is also experienced, in a direct sensuous way, as an "ordinary" mulch that is free of undesirable odors that might otherwise turn off users. In this manner, it is socially acceptable because it makes "good sense" both economically and experientially.

Site 3: Maggie Daley park

While researchers at MWRD have sought to promote the use of biosolids through new forms of public outreach and free EQ compost, it is important to also recognize that many recreation areas in Chicago that rely on biosolids rarely publicize or even necessarily acknowledge their use of it. Still, biosolids have served as the foundation for several new urban redevelopment projects that are reshaping Chicago and its image in the early 21st century. Perhaps the most central and iconic recreational space in downtown is Millennium Park, with its now-famous "bean" or Cloud Gate sculpture, designed by Anish Kapoor, that stands as a key focal point (Figure

2). Adjacent to it is Maggie Daley Park — a 10-hectare green space largely populated with native prairie grasses planted in over 4500 cubic meters of Chicago's EQ biosolids compost.

The biosolids used in these landscapes most certainly do not smell. Unless you read about their presence on MWRD's website, you would not really be able to "see" them either. But what do

they sound like? Shortly after arriving in Chicago to begin research in August of 2019, I had stopped in an independent bookstore and purchased two booklets with exercises and experiments in "deep listening" (Bloom, 2017; 2019; Oliveros, 1974). On the train back to my Airbnb, I thumbed through these sonic meditations, wondering how attention to sound rather than smell might open



Figure 2. Cloud Gate ("The Bean") by Anish Kapoor at Millennium Park in downtown Chicago.

new lines of inquiry for me. In other words, what might “deep listening” at Maggie Daley Park tell us about the use of biosolids in urban recreational spaces as well as the social worlds that have, at least in part, been created through them?

The following day, strolling through Maggie Daley Park with my audio recorder in hand, I attempted to apply these lessons in deep listening. There I heard:

1. Drums from the Frank Gehry-designed amphitheater boom across the space as people — more like ants with smartphones — crawl around and snap pictures of loved ones to share with other loved ones (and maybe also enemies?) on the internet.
2. Water trickles in from the Lurie Gardens. Then more water trickling, falling, flowing. My breathing (?).
3. A man leads a tour of visitors and points out to the gardens and says “[the great thing is that] these plants inhabited the Great Plains and this area”.
4. At Maggie Daley Park’s western entrance, the wind blows through the microphone, rumbling. A woman asks a companion: “Wanna go this way?”
5. Sounds of sprinklers tending to the thirsty grass. A helicopter flies over head. Car traffic on Columbus Drive. In the distance, footsteps.
6. The quiet chirp of crickets grows until it’s not so quiet at all, but ringing loudly, brightly.
7. A sprinkler’s stream hits the trunk of a skinny tree. A bird chirps. The wind comes at the little microphone in my recorder even harder.
8. I stop to jot down notes, scratching on to paper: “sprinklers, car traffic, helicopter, crickets, Spanish & English & Japanese, the breeze”.
9. A long line of preschool children in yellow vests. One of the children: “Are we going this way?” An adult: “Watch out friends, move over.”
10. Long strides. Crickets with different pitches, rhythms. Car traffic. The air.
11. A white man in scrubs walks by, talking about the overcast sky to someone on the phone. The sun has yet to come out. He tells the person on the phone: “[But] yesterday it did while I was out on the boat and so I got a good, nice... what works for me is a sun tan. Which is really a red, you know, I get red”.
12. People walk by, chatting. “Gimme water” one says.
13. “I have an imaginary pet”, a young girl states plainly. I don’t catch her comment on my audio recorder. I later write it down.
14. More chatter from people. “Yeah, yeah.” “I mean, we are, but like mainly...”
15. The rumble-rumble of the wind in the microphone. Crickets. Cars. Crickets. Chatter. Children’s voices. Adult’s voices. All indistinct.
16. “Where are we going to?”

At the end of my recordings, I find a public art piece that is painted on the ground in black and white in a long

swoosh-like shape. It defies audio capture, but shares the following sequence of statements:

"ASSUMING A POSITION"

"PRESUME A DESTINATION"

"ONE CAN ONLY IMAGINE THE
POWERS THAT BE"

"IMAGINED THINGS CAN BE ALTERED
TO SUIT"

"SPIT INTO THE WIND. HOPE FOR THE
BEST"

"THE DESTINATION IS STRAIGHT ON"
"OUT OF SIGHT"

Of course, I cannot help but think what remains out of sight is not just our individual or collective destinations, but also the biosolids that sustain the prairie

grasses, trees, and other landscape features of this urban park (Figures 3 and 4). Admittedly, these sounds and snippets of conversation and word-images might not really expose anything about biosolids in any directly meaningful way. But they might reveal something about the types of environments that biosolids can create, or the conditions that they can enable for urban recreation. In concrete terms, they provide a foundation for spaces of environmental and ecological appreciation, including the sensuous sway of native prairie grasses and sweeping sounds of insects. At the same time, an examination of biosolids in such a recreational setting invites reflection on all that is obscured. This includes



Figure 3. A view of the Chicago skyline from Maggie Daley Park, where over 4500 cubic meters of exceptional quality biosolids compost was used in the park's landscaping.

public concerns over biosolids due to the presence of emerging contaminants as well as the much broader challenges of sustainability in a time of ecological crisis, not to mention the questions of who shoulders such burdens and who has the privilege to ignore them.

The uncertainties of biosolids & their afterlives

On the train ride back from Maggie Daley Park, I listen to my interview with an environmental scientist named Dan whom I previously met in Chicago to discuss the safety of biosolids. Following the US Environmental Protection Agency's guidelines, all biosolids produced in the US need to be treated

to eliminate pathogens and reduce the presence of heavy metals. However, some critics have argued that the complex composition of sanitation waste — which includes diverse unregulated industrial compounds that have unknown long-term impacts on human and environment health — should prompt greater restrictions in their usage (Clarke and Smith, 2011; Langdon et al., 2010). In Dan's research, however, he has demonstrated that urban soils are often compacted and unproductive, and they can be contaminated too, especially with lead. He has shown that biosolids can also help to immobilize heavy metals in soils due to their interactions with iron and aluminum oxides. Depending on the environmental history of a site, it appears



Figure 4. *Out of sight* — public art at Maggie Daley Park.

that biosolids can offer other benefits for urban application, including the ability to contend with existing pollutants in city soils. But convincing the general public of this point is a different story.

In our interview, Dan told me “I’ve seen the whole gamut — from people who say that ‘Yeah, this makes a lot of sense’ to others who say ‘I don’t want to touch the stuff’ because they see it no differently than raw sludge. Some will then get into the nitty gritty of the composition of biosolids, but this can lead down the rabbit hole of trace contaminants and distinguishing parts per million from parts per billion...”

He continued on, stating: “the conversations always come down to that, what do those trace concentrations really mean, and then, you know, I always tell them the tool for understanding them is risk assessment... which can also be a pretty complex conversation, when you start talking about dose response and exposure pathways. You know, some people go right along with that, and they’ll engage the conversation. And other people, as soon as you start talking about risk assessment, they’re done. Anything greater than zero is problematic”.

Dan recognized that he was different from most of the general public in that he had ample opportunity to reflect on and assess the variable dangers within the chemical soup of late industrial life as well as the calculus of its associated risks. He told me: “Having studied so

much environmental chemistry and having been involved in risk assessments and doing so many risk assessments, it all makes logical sense to me.” “But”, he noted further, “for someone in the general public, maybe who has had a minimal amount of general chemistry or hasn’t seen or heard of risk assessment processes, all they see are a list of chemicals and concentrations, so then someone tells them, ‘Hey, this is toxic waste’, it’s easy to draw that conclusion”.

I told Dan that even for someone like myself who had advanced degrees but lacked a background in chemistry, it can be hard to fully grasp the complexity of the chemical make-up of late industrial life. I then probed further, asking him if there were any contaminants that he, with his professional training and expertise, did have worries about. He responded in the following manner: “So the argument I would say if I’m coming from that perspective of critiquing biosolids is that while many things are analyzed, there are many that we are not testing.” He went to elaborate on the metabolites that are not tested for. He also noted that while testing for individual compounds may occur, we don’t necessarily know about their synergistic effects — whether they enhance their toxicity or diminish it through interaction. Interestingly, he noted that there is a cultural difference between the US and Europe. He shared that “In the US, we wait to see if something is harmful, and then we regulate it. In

Europe, something has to be proven to *not* be harmful". But, he concluded, "we've been using biosolids in this way for 30 to 40 years".

Ultimately, Dan did not seem especially concerned by the debates surrounding emerging contaminants in biosolids, including the most recent attention toward PFAS (per- and polyfluoroalkyl substances). Most of the city's analyses and tests, he assured me, show that any emerging contaminants present in biosolids occur at relatively low concentrations, even in lower concentrations than you might find in your home. But it still made me wonder about the hundreds of thousands of unregulated industrial chemicals that course through the hydraulic sanitation system as well as and the potential synergies among them. Of course, it would be nearly impossible to build and mobilize a scientific apparatus that could test and account for all of such compounds, residues, and their relations. The question that Dan posed to me is that if people demand to know "whether biosolids are safe", in such simplified terms, then they should also be asking:

- "Is my flame-retardant mattress safe?"
- "Is the triclosan in my toothpaste safe?"
- "Are the dioxins in the dust bunnies hiding under the couch in my living room safe?"

His point was that in most individuals' consumptive lives in the US, one is continuously exposed to these potential

problems and the deep uncertainties they pose. They are all potential threats to human and environmental health. And yet the answer to whether they are safe or not, really asks for other questions — ones that are less straightforward or intuitive. What is the exposure and dose rate? What is the weight of evidence that it has clear effects on human health? What are the trade-offs for having a flame-retardant mattress in the event of a fire when 60 seconds can mean the difference between saving your child's life or not?

In her conceptualization of "late industrialism", Kim Fortun (2014: 311) describes it as a time marked by "the limits of available critical constructs for explaining issues of particular concern within environmental politics" which include "the complexity and current state of ecological systems; the complex relationship between ecosystem and human health [...] [and] the longue durée in which environmental problems become manifest". Following Fortun's lead, it is worthwhile to consider how late industrial ecologies of excess have produced ecological conditions far different from those of industrial life only a few hundred years ago. As Fortun insists, today's conditions require negotiation with a wide array of different concerns and modern messes that are not so easily cleaned up. As Alex Blanchette (2019) describes in chilling detail, this includes the increasing complexity of late industrial excreta, such as that of industrially-produced hogs — treated

with elaborate cocktails of antibiotics — whose unruly waste inevitably escapes the industrial farm and poses uncertain impacts, on human and non-human communities alike. The composition of late industrial sewage sludge is surely no less complex and its potential long-term impacts when returned to the land are no more certain. Wastewater researchers and other experts fully acknowledge that PFAS and many other persistent environmental pollutants run through the sanitation system as do residual amounts of Viagra, Vicodin, Xanax, Prozac, and a wild diversity of other pharmaceuticals and personal care products that individuals consume and excrete. But with a growing ecological crisis facing humanity, environmental chemists like Dan — and many wastewater treatment workers I have met — seem to suggest that humanity simply cannot afford to hide from its wastes anymore. And here a subtle irony begins to reveal itself. Biosolids applied on urban golf courses, municipal sports fields, and city parks enable people to experience the joys of urban nature and its flourishing. But these pleasures conceal and obscure much deeper uncertainties about late industrial ecologies that define contemporary urban life.

Discussion and Conclusion

In this article, I have tracked three different dimensions of sensemaking in

the use of biosolids in urban Chicago: the embodied sensorial experiences of it (and specifically smells or their absence), the economic sensibility of its use, and the ecological or environmental logics that justify its application as making “good sense”. I will address each of these in turn.

First, regarding the embodied sensorial experience of biosolids, my interviews with users and wastewater treatment experts highlight the significance of odor as a potential deterrent for users and conversely, the absence of odor as an attractive feature of EQ biosolids compost. As one interviewee memorably told me (who spoke English as a second language): “even odor is in the sight”. What he sought to convey is that sometimes the mere presence (or visual awareness) of biosolids can heighten a person’s ability to sense odors emanating from the material. In a related vein, a representative for a waste-to-energy company commented to me that his company always placed trees along the perimeter of the manure lagoons they operated “so people can’t smell with their eyes”. The point he was making is that the senses can have synergies or mutually reinforcing effects. The EQ biosolids compost is an important ambassador for biosolids in the city of Chicago for this same reason. The process of composting and curing the material stabilizes it and reduces the production of noxious odors. Furthermore, the compost consists in

large part of wood chips, which give the final product both the appearance and texture of “ordinary” compost. These factors together heighten the social acceptability of its use as well as potential users’ willingness to experiment with it. While EQ compost may be derived in part from treated sewage sludge, it does not smell like, look like it, or feel like what most residents would imagine to be sewage sludge — and, for this reason, it does not raise alarm bells for users (c.f. Spackman and Burlingame, 2018).

Second, the use of biosolids makes good sense economically to its users. This is because it is free to park districts, golf courses, or any individuals in the city that find value in its application. Several golf courses in the city have long relied on biosolids as a soil amendment and the first widely marketed biosolids product from the city of Milwaukee, known as Milorganite, had found a specific niche in golf course management as early as the 1930s (Schneider, 2011). However, with the coronavirus pandemic, an increasing number of residential users in Chicago have begun to see the value of the free EQ compost for landscaping around their homes as well as use in community gardens. Many other cities in the US — from Tacoma, Washington to Washington, D.C. — have been doing the same. The extent to which compost production is economical for individual wastewater treatment districts is another question, and one that has been actively debated. Still,

most districts involved in the beneficial use of biosolids are hoping that this approach can help to minimize their operating costs — either now or in the future — including savings on tipping fees at landfills as well as phasing out aging incinerators that are costly to replace. It is also evident that cities like Chicago are seeking to expand urban application and distribute their biosolids closer to treatment districts to reduce their transportation and logistical costs. Furthermore, offering biosolids compost products free of charge to local residents is one visible strategy for wastewater treatment districts to increase community engagement and build a sense of goodwill.

Third, the use of biosolids as a renewable resource can be justified by some users and wastewater treatment experts as an important practice for working toward urban sustainability. By taking so-called waste and transforming it into a resource, this aligns with broader calls to “close the loop” in wastewater management. For golf course superintendents, like Steve, biosolids can also fit into their sense of what it means to be environmentally conscious in urban landscape management. Not to mention, such biosolids-enriched landscapes can support distinct forms of urban nature-enjoyment, as evidenced in places like Maggie Daley Park where local residents and visiting tourists experience green spaces planted with native prairie grasses, right in the heart of the city.

But whether the use of biosolids fully fits into this ethos of ecological sustainability is also actively contested. While sewage sludge undoubtedly holds great potential as a renewable resource that is rich in organic matter and valuable nutrients, critics are quick to note that it is also constituted by many other unwieldy wastes that are not actively monitored under current environmental protection regulations in the US. To be sure, Steve, Walter, Chen, Erica, and others whom I interviewed have argued convincingly about the benefits of biosolids as a soil amendment in urban areas while also detailing at length how public concerns over biosolids typically stem from misunderstandings of the science or simply reflect larger cultural taboos or social anxieties surrounding the disposal of human excreta. Environmental scientists like Dan have also illustrated how concerns linked to emerging contaminants are not unique to biosolids but rather ubiquitous problems that characterize late industrial urban ecologies. Perhaps then, to paraphrase Max Liboiron (2021), we should start not by examining these problems at the end of the pipe, but begin a much deeper examination of how they got into the pipe to begin with.

References

- Arefin, M. R. 2015. Abjection: a definition for discard studies. *Discard Studies* [Online]. [Accessed in 7-9-2021]. Available at: <https://discardstudies.com/2015/02/27/abjection-a-definition-for-discard-studies/>.
- Benidickson, J. 2011. *The culture of flushing: a social and legal history of sewage*. Vancouver, UBC Press.
- Blanchette, A. 2019. Living waste and the labor of toxic health on American factory farms. *Medical Anthropology Quarterly*, 33(1): 80–100.
- Bloom, B. 2017. *Break down workbook #3 – sonic meditations: immersive ecological entanglement*. Auburn, IN, Breakdown Break Down Press.
- Bloom, B. 2019. *Break down workbook #2 – sonic meditations: investigating petro-subjectivity*. Auburn, IN, Breakdown Break Down Press.
- Clarke, B. O.; Smith, S. R. 2011. Review of “emerging” organic contaminants in biosolids and assessment of international research priorities for the agricultural use of biosolids. *Environment International*, 37(1): 226–247.
- Douglas, M. 1966. *Purity and danger: an analysis of concepts of pollution and taboo*. New York, Routledge.
- EPA (Environmental Protection Agency). 2014. *Water: sewage sludge (biosolids)* [Online]. [Accessed in 9-10-2019]. Available at: <http://water.epa.gov/polwaste/wastewater/treatment/biosolids/genqa.cfm>.
- Fortun, K. 2014. From Latour to late industrialism. *HAU*, 4(1): 309–329.
- Harrison, P. 2000. Making sense: embodiment and the sensibilities of the everyday. *Environment and Planning D: Society and Space*, 18(4): 497–517.
- Hawkins, G. 2006. *The ethics of waste: how we relate to rubbish*. New York, Rowman & Littlefield.
- Kawa, N. C.; Ding, Y.; Kingsbury, J.; Goldberg, K.; Lipschitz, F.; Scherer, M.; Bonkiye, F. 2019.

- Night soil: origins, discontinuities, and opportunities for bridging the metabolic rift. *Ethnobiology Letters*, 10(1): 40–49.
- Kiechle, M. A. 2017. *Smell detectives: an olfactory history of nineteenth-century urban America*. Seattle, University of Washington Press.
- Langdon, K. A.; Warne, M. S. T. J.; Kookana, R. S. 2010. Aquatic hazard assessment for pharmaceuticals, personal care products, and endocrine-disrupting compounds from biosolids-amended land. *Integrated Environmental Assessment and Management*, 6(4): 663–676.
- Lepawsky, J. 2018. *Reassembling rubbish: worlding electronic waste*. Cambridge, MIT Press.
- Liboiron, M. 2018. The what and the why of discards studies. *Discard Studies* [Online]. [Accessed 7-9-2021]. Available at: <https://discardstudies.com/2018/09/01/the-what-and-the-why-of-discard-studies/>.
- Liboiron, M. 2021. *Pollution is colonialism*. Durham, Duke University Press.
- Lu, Q.; He, Z. L.; Stoffella, P. J. 2012. Land application of biosolids in the USA: a review. *Applied and Environmental Soil Science*. [Online]. DOI: 10.1155/2012/201462.
- Millar, K. 2018. *Reclaiming the discarded*. Durham, Duke University Press.
- Nagle, R. 2013. *Picking up: on the streets and behind the trucks with the sanitation workers of New York City*. New York, Farrar, Straus, Giroux.
- Oliveros, P. 1974. *Sonic meditations*. Baltimore, Smith Publications.
- Rathje, W. L.; Murphy, C. 2001. *Rubbish!: the archaeology of garbage*. Tucson, University of Arizona Press.
- Reno, J. 2016. *Waste away: working and living with a North American landfill*. Berkeley, University of California Press.
- Reno, J. 2018. What is waste? *Worldwide Waste: Journal of Interdisciplinary Studies*, 1(1): 1–10.
- Schneider, D. 2011. *Hybrid nature: sewage treatment and the contradictions of the industrial ecosystem*. Cambridge, MIT Press.
- Schneider, D. 2012. Purification or profit? Milwaukee and the contradictions of sludge. In: Foote, S. and Mazzilini, E. (eds.). *Histories of the dustheap: waste, material cultures, social justice*. Cambridge, MA, MIT Press.
- Spackman, C.; Burlingame, G. A. 2018. Sensory politics: the tug-of-war between potability and palatability in municipal water production. *Social Studies of Science*, 48(3): 350–371.

Nutritional status and dental caries of vulnerable Cambodian children and adolescents living in Phnom Penh

Estado nutricional e cáries dentárias em crianças e adolescentes cambojanos vulneráveis que vivem em Phnom Penh



63

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Abstract During childhood, malnutrition is associated with dental caries, being the most prevalent oral disease in Cambodian. Therefore, this cross-sectional study investigated the nutritional status and the prevalence of dental caries in 344 vulnerable Cambodian children and adolescents aged 6 to 18 years old. Nutritional status (body weight, height and body mass index-for-age and sex) and the DMFT index (decayed-missing-filled teeth) were measured and calculated. Results showed that most participants presented normal weight (56.7%), 36.6% were underweight, 6.7% were overweight and 45.1% were stunted. Dental caries prevalence was remarkably high (94.9%) with children aged 6–11y-old presenting a significantly higher DMFT index (6.7 ± 4.0) than adolescents

Resumo Durante a infância, a malnutrição está relacionada com a cárie dentária, doença mais prevalente no Camboja. Assim, este estudo transversal avaliou o estado nutricional e a prevalência de cárie dentária em 344 crianças e adolescentes vulneráveis cambojanos com idades entre os 6 e os 18 anos. O estado nutricional (peso corporal, estatura e índice de massa corporal para idade e sexo) e o índice CPOD (dentes cariados-perdidos-obturados) foram medidos e calculados. Os resultados mostraram que a maioria dos participantes apresentava peso normal (56,7%), 36,6% baixo peso, 6,7% excesso de peso e 45,1% baixa estatura para a idade e sexo. A prevalência de cárie dentária foi notavelmente alta (94,9%) com as crianças de 6–11 anos a apresentar um índice CPOD significativamente maior ($6,7 \pm 4,0$)

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(4.0 ± 2.9 for 12–14y and 4.1 ± 1.6 for 15–18y, $P < 0.01$). Children suffering from underweight showed the highest DMFT index (6.6 ± 3.8). In conclusion, vulnerable and at-risk children aged 6–11y-old and underweight were the most affected; therefore, prevention is urgent, especially nowadays. Nutritional and oral health literacy should be encouraged.

Keywords: Nutritional status; dental caries; children; adolescents; Cambodia.

Introduction

The Global Nutrition Report (2020) estimated Cambodian children under 5 years old suffer from moderate or severe stunting (32.4%) and wasting (9.7%), which are higher than the average for Asia (21.8% and 9.1%), respectively; overweight is 2.2%. Also, great inequality access to dental care has been shown by the World Health Organization – WHO (2012). Yet, there is a lack of epidemiological data about dental caries in Cambodia children (Turton et al. 2019).

Nutrition and eating habits can enable the caries' incidence by the consumption of carbohydrates high-rich food, which can be quickly fermented; the increased meals frequency; the masticatory function, which influences the dental activity and; the capacity to ensure a natural cleaning of the oral cavity (Moynihan

do que os adolescentes ($4,0 \pm 2,9$ para 12–14 anos e $4,1 \pm 1,6$ para 15–18 anos, $P < 0,01$). As crianças com baixo peso apresentaram o maior índice CPOD ($6,6 \pm 3,8$). Em conclusão, as crianças vulneráveis e em situação de risco, na faixa etária dos 6 aos 11 anos e com baixo peso foram as mais afetadas, pelo que a prevenção é urgente, principalmente nos dias de hoje. A literacia em alimentação e em saúde oral deve ser incentivada.

Palavras-chave: Estado nutricional; cáries dentárias; crianças; adolescentes; Camboja.

and Kelly, 2014; Kassebaum et al., 2017). Furthermore, it is well-known the nutrition great influence on children's growth and nutritional status (Machado-Rodrigues et al., 2018; Nogueira et al., 2020); therefore, it is relevant to understand the possible relation of children and adolescents' nutritional status with dental caries according to sex and age.

In fact, dental caries is the most prevalent oral disease in the Cambodian population (Chher et al., 2016) and among the most severe oral diseases worldwide (Khitdee, 2017; Turton et al., 2019). They can not only impair individuals' general and oral health, but also their eating habits and sleep (Turton et al., 2019), especially during childhood (Kubota et al., 2020; Zahid et al., 2020). In addition, children and adolescents from lower socioeconomic status are the most vulnerable and affected by unequal

access to health, outdated or non-existent sanitation systems, lack of drinking-water and food insecurity, which can make them more susceptible to dental caries (Kubota et al., 2020; Turton et al., 2020).

Dental caries represents one of the most common threat for a good childhood's oral health and are the leading cause of absence from school. They are a multifactorial disease caused by the interaction between the tooth surface, sugars from food and the bacterial biofilm causing the deterioration of tooth enamel over time through sugars' metabolism and acids' production (World Dental Federation, 2015).

A systematic review conducted by Kassebaum et al. (2017) reported that oral health has not been improving in the last 25 years due to population growth and aging, and 48% of the world population is still suffering from insufficient oral conditions, such as, untreated caries in permanent teeth (affecting 2.4 billion people worldwide in 2010) and untreated caries in deciduous teeth (the 10th most prevalent condition affecting 621 million children worldwide). Several studies have already investigated this, but results were inconsistent. For example, a systematic review showed that 48% of studies did not find any association between body mass index (BMI) and dental caries; 35% found a positive association, while 19% found an inverse association (Hooley et al., 2012).

Since children's nutritional status and general and oral health are influenced by several economic, social, and cultural

factors, Cambodia is not an exception.

Exactly, the country is one of the poorest ones in Asia as it has been experiencing great instability due to wars in the last century (United Nations Development Programme, 2020). The World Bank (2017) formally reclassified Cambodia as a lower middle-income country as the result of a continued rapid economic growth over the past several years due to tourism growth, but still 14% of the population in 2014 was living on less than \$1.90 per day (poverty line in the world). In July 2017, from the 16.204.486 Cambodians, 50% were under 25 years old; the life expectancy at birth was 64.9 years old, which was the lowest from Asia (except Laos); the infant mortality rate was of 47.4 deaths/1.000 live births (35th country in the world); 75.5% had access to drinking water and; only 42.4% had sanitation facility access.

In 2017, the Cambodia's Human Development Index (HDI) value was 0.582 and, in the last estimation in 2019, it was 0.594, classifying the country in the medium human development category, and positioning it at 144 out of 189 countries and territories (United Nations Development Programme, 2020). However, this HDI decreases to 0.475 when considering the inequality in the distribution of the HDI dimension indices (Cambodia's Human inequality coefficient is equal to 19.9%).

In order to help Cambodian people recover from this situation, more than thousands Non-Governmental

Organizations (NGO) grew up, such as, “Pour un sourire d’enfant” (PSE), one of the biggest, and “Poids Plume Asie” (PPA).

Therefore, the main purpose of this study was to evaluate the nutritional status and the incidence of dental caries of Cambodian children and adolescents living in Phnom Penh and studying in these two NGO.

Materials and methods

Study design and participants

Three hundred and forty-four Cambodian children and adolescents aged 6 to 18 years old studying in the two NGO (PSE and PPA) were evaluated through a cross-sectional epidemiological survey in relation to their nutritional status and dental caries. This study took place on the entire month of June 2017 in Phnom Penh, Cambodia. Vulnerable and at-risk children and adolescents integrated these NGO, such as: orphans, victims of abuse and/or abandoned. Thirty-three participants were observed in the dental clinic of the NGO and 311 participants were observed in rural schools. Due to growth and BMI-for age stratification, participants were subdivided in three subgroups: from 6–11 years, 12–14 years to 15–18 years (Dye et al., 2010).

Ethical approval of human subjects and consent

All procedures performed were in accordance with the ethical standards

of the Hospital La Calmette (Cambodia), the Ethical Committee of the University Fernando Pessoa, Oporto, Portugal (CE-UFP26-09-2017) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Written informed consent was obtained from all participants or participants’ guardians included in the study.

Anthropometric measurement

The participants’ weight was measured by a digital scale (SECA-872, Hamburg, Germany) to the nearest 0.01 kg and height was determined with a portable stadiometer (SECA-213, Hamburg, Germany) to the nearest 0.1 cm. Measures were made with participants lightly dressed and without shoes. Procedures were conducted as recommended by the International Society for the Advancement of Kinanthropometry (Marfell-Jones, 2006). Measurements were obtained in duplicate, and the average of two measurements was reported. Body mass index was calculated as weight/height² (kg/m²).

Weight and height data were subsequently converted to BMI-for-age z-scores and height-for-age z-scores with the WHO AnthroPlus software, which uses the WHO Growth reference 2007 (De Onis, 2015). Z-scores allow comparison of an individual’s weight, height or BMI, adjusted for age and sex relative to a reference population, expressed in standard deviations (SDS)

from the reference mean. For school aged children, cut-offs for BMI-for-age z-scores were used to categorize children's weight status into underweight (< -2 (SDS), normal weight (≥ -2 SDS & ≤ 2 SDS) and overweight (> 2 SDS). Stunting was defined as a height-for-age z-score < -2 SDS; scores ≥ -2 SDS were classified as 'not stunted' (WHO, 2017a).

Dental caries status assessment

Participants were examined in a supine position with a plane mouth mirror number 4, a dental probe (Arinstrumed 102–127) and illumination from a hand-held torch. Appropriate infection control procedures were performed.

Data were collected on dental caries experience using the decayed-missing-filled teeth index (DMFT), which has been used to describe the prevalence of dental caries in an individual by teeth (T): Decayed (D), Missing (M), Filled (F). This index is used to get an estimation of how much the dentition until the day of examination has become affected by dental caries (WHO, 2013). If a tooth had both caries lesion and filling, it was calculated as D only. All intra-oral examinations were performed by one trained assistant using the techniques suggested in the WHO-Oral Health Surveys protocol (WHO, 2013). The dental team included one calibrated examiner and one trained assistant. Calibration training was conducted until both achieved a kappa score above 0.9 for

the DMFT index indicating near perfect agreement.

Statistical analysis

Descriptive statistics were calculated (frequencies and means) to characterize the participants. Differences in means between groups were tested using the Kruskal-Wallis test for non-parametric data and t-test for parametric data; differences in proportions among groups were tested using the Chi-squared test. The level of statistical significance was set at a P-value < 0.05 . Statistical analysis was performed using the software SPSS version 25.0.

Results

In table 1 are shown the results regarding sociodemographic characteristics, nutritional status, malnutrition and oral health status of 344 participants, 178 were females (51.7%) and 166 were males (48.3%). Participants' mean age was 10.5 ± 2.5 years old with the majority (67.7%) being children from 6 to 11 years old, and with an average of 27.2 ± 9.4 kg, 1.31 ± 0.14 m and 15.5 ± 2.7 kg/m² for body weight, height and BMI, respectively.

Although most of the participants presented normal body weight (56.7%), 36.6% were underweight, 6.7% were overweight and 45.1% were stunted. Significant differences were observed for sex with most underweight children being females (67%, $P < 0.01$; data not shown).

The mean DMFT was 5.8 ± 3.8 with 94.9% of children and adolescents being affected by caries (Table 1). Children aged 6–11y-old presented a significantly higher DMFT index (6.7 ± 4.0) than adolescents (4.0 ± 2.9 for 12–14y-old and 4.1 ± 1.6 for 15–18y-old, $P < 0.01$). There were significant differences for the DMFT index by BMI with participants suffering from underweight showing the highest DMFT score (6.6 ± 3.8 , Table 2). No significant differences were observed for DMFT by sex (5.9 ± 3.8 for females and 5.8 ± 3.9 for males, $P > 0.05$) or local of evaluation (5.3 ± 3.8 for NGOs' clinic and 5.9 ± 3.9 for rural schools, $P > 0.05$, Table 2).

Table 3 presents the nutritional status between age-strata. There were significant differences in dental caries status by age-groups. Surprisingly, children aged 6–11y-old demonstrated more decayed teeth than the oldest group and, as expected, less missing and filled teeth.

In table 4 are shown the results of the prevalence of dental caries and oral health status of participants ($n = 344$) according to BMI-for-age.

Discussion

This is one of the few studies evaluating the nutritional status and the presence of dental caries among Cambodian children and adolescents, since epidemiological data on the subject is lacking (Turton et al. 2019, 2020) and previous studies were mostly conducted in young children (under 5 years old) or adults. Furthermore,

these participants were vulnerable and at-risk children and adolescents (orphans, victims of abuse and/or abandoned).

The participants' nutritional status is of concern as 36.6% children were underweight; from those, 67% were mainly female children; and 451.1% were stunted. Children, especially females might be more vulnerable to undernutrition with negative consequences for their growth, physical and mental development and, obviously, oral health. This can be confirmed by our results that showed 94.9% of the participants affected by caries, and were mostly underweight. Furthermore, the DMFT index was also significantly higher in these latter and in the youngest children (aged 6–11y-old).

These findings may be affected by poor environmental conditions and primary health care and/or long-term restriction of a healthy nutrition, since children and adolescents with opposite nutritional status, i.e., underweight or overweight, demonstrated a higher mean of missing teeth than others, which may be indicative of poor oral health hygiene, eating and/or drinking habits (probably by sugary drinks) (Chher et al., 2016). On the other hand, filled teeth were significantly greater in participants with normal body weight, which can indicate a possible greater nutrition and oral health response to infection than those with a more vulnerable immune system.

In fact, an estimated 45% of deaths of children under the age of 5-years

Table 1. Sociodemographic characteristics, nutritional status, malnutrition and oral health status of participants (n = 344).

Variable	Category	Statistics	Values
Sex	Female	n (%)	178 (51.7%)
	Male	n (%)	166 (48.3%)
Age		Mean \pm sd	10.5 \pm 2.5
		Min-Max	6-18
	6-11 y-old	n (%)	233 (67.7%)
	12-14 y-old	n (%)	92 (26.7%)
	15-18 y-old	n (%)	19 (5.5%)
Local	NGOs' clinic	n (%)	33 (9.6%)
	Rural schools	n (%)	311 (90.4%)
Weight (kg)		Mean \pm sd	27.2 \pm 9.4
		Min-Max	10-72
Height (m)		Mean \pm sd	1.31 \pm 0.14
		Min-Max	1.02-1.72
BMI-for-age (kg/m²)		Mean \pm sd	15.5 \pm 2.7
		Min-Max	7.8-27.6
	Underweight	n (%)	126 (36.6%) ^{a,b}
	Normal weight	n (%)	195 (56.7%) ^{a,c}
	Overweight	n (%)	23 (6.7%) ^{b,c}
Stunting	No	n (%)	189 (54.9%)
	Yes	n (%)	155 (45.1%)
Oral health status	Total teeth examined	n	2004
	Dental caries prevalence	n (%)	1902 (94.9%)
	Decayed teeth	Mean \pm sd	5.5 \pm 3.9
		Min-Max	0-19
		n (%)	1901 (94.9%)
	Missing teeth	Mean \pm sd	0.1 \pm 0.4
		Min-Max	0-4
		n (%)	28 (1.4%)
	Filled teeth	Mean \pm sd	0.2 \pm 0.6
		Min-Max	0-4
		n (%)	75 (3.7%)
	DMFT index	Mean \pm sd	5.8 \pm 3.8
		Min-Max	0-19

DMFT: decayed-missing-filled teeth index, sd: standard deviation, NGO: non-governmental organizations.

^{a,b,c} Significant differences ($P < 0.01$) were observed using the Kruskal Wallis test.

Table 2. DMFT index by sex, local and BMI-for-age of participants (n = 344).

DMFT index	Category	Mean±sd	Min-Max	P
DMFT by sex				0.870
	Female (n=178)	5.9±3.8	0-19	
	Male (n=166)	5.8±3.9	0-17	
DMFT by age-group				0.001*
	6-11y-old (n=233) ^a	6.7±4.0	0-19	
	12-14y-old (n=92)	4.0±2.9	0-13	
	15-18y-old (n=19)	4.1±1.6	0-7	
DMFT by local				0.462
	NGOs' clinic (n=33)	5.3±3.8	1-16	
	Rural schools (n=311)	5.9±3.9	0-19	
DMFT by BMI-for-age				0.032*
	Underweight (n=126)	6.6±3.8	0-19	
	Normal weight (n=195)	5.8±3.9	0-16	
	Overweight (n=23)	4.5±4.0	0-12	

BMI: body mass index. DMFT: Decayed, missing and filled teeth, NGO: non-governmental organizations, sd: standard deviation.

^a indicates dmft: decayed, missing, and filled teeth with reference to primary dentition.

*P < 0.05.

Table 3. Age, nutritional status and dental caries of participants (n = 344) according to age-strata.

Variables	6-11y-old (n=233)	12-14y-old (n= 92)	15-18y-old (n= 19)
	Mean ± sd (min-max)	Mean ± sd (min-max)	Mean ± sd (min-max)
Age (years)	9.1±1.6 (6-11)*	12.7±0.7 (12-14)*	16.2±1.1 (15-18)*
Weight (kg)	23.1±5.2 (10.0-40.0)*	33.5±9.2 (18-64)*	46.9±8.8 (33-72)*
Height (m)	1.24±0.85 (1.02-1.47)*	1.42±0.88 (1.23-1.65)*	1.59±0.80 (1.40-1.72)*
BMI (kg/m ²)	14.8±2.2 (7.8-23.0)*	16.4±3.2 (11.2-27.6)*	18.6±3.2 (15.2-26.4)*
Prevalence of DC (%)	65.9	29.1	5.0
DT	6.5±4.0 (0-19) ^{ab}	3.5±2.9 (0-13) ^{bc}	3.1±1.8 (0-7) ^{bc}
MT	0.0±0.2 (0-1) ^b	0.2±0.7 (0-4)	0.3±0.6 (0-2) ^b
FT	0.2±0.5 (0-3) ^b	0.3±0.7 (0-4) ^c	0.7±1.3 (0-4) ^{bc}

DC: dental caries, DT: Decayed Teeth, MT: Missing Teeth, FT: Filled Teeth, sd: standard deviation.

^a indicates dmft: decayed, missing, and filled teeth with reference to primary dentition.

^{bc} Means that in groups within the same row with a common super script letter have a statistically significant difference (P < 0.05 or P < 0.01).

* P < 0.01.

Table 4. Prevalence of dental caries and oral health status of participants (n = 344) according to BMI-for-age.

Prevalence of DC		DT	MT	FT
	(%)	Mean ± sd (min-max)	Mean ± sd (min-max)	Mean ± sd (min-max)
BMI-for-age				
Underweight (n=126)	38.7	6.7±4.0 ^{a,b,c} (0-19)	0.2±0.06 (0-4)	0.2±0.2 ^a (0-2)
Normal weight (n=195)	25.8	5.6±3.8 ^{d,a,e} (0-16)	0.0±0.3 ^{d,f} (0-1)	0.7±1.2 ^{d,a} (0-4)
Overweight (n=23)	7.4	4.5±4.1 ^{f,b,g} (0-12)	0.3±0.8 ^f (0-4)	0.4±0.5 (0-3)

DC: dental caries, DT: Decayed Teeth, MT: Missing Teeth, FT: Filled Teeth, sd: standard deviation.

^{a-g} Means that in groups within the same column with a common super script letter have a statistically significant difference ($P < 0.01$).

old are linked to malnutrition (Black et al, 2013). Malnutrition and diet are now the largest risk factors responsible for this global burden of dental caries (Forouzanfar et al., 2016; Kubota et al., 2020; Zahid et al., 2020). Contrarily to Shivakumar et al. (2018), dental caries was associated to BMI, since children aged from 6 to 11 years old and those with underweight presented significantly higher levels of DMFT (6.7 ± 4.0 and 6.6 ± 3.8 , respectively, $P < 0.01$) than their counterparts. These results are consistent with a previous study conducted in Cambodia with 23.9% of children under 5 years old being underweight (Black et al., 2013). In addition, the incidence of stunting was also high (45.1%) in our study. A systematic review showed that primary dentition caries has been associated with underweight and early childhood malnutrition (Psoter et al,

2005). In fact, malnutrition may influence enamel hypoplasia, salivary glandular hypofunction and saliva compositional changes which can impair teeth structure. In a recent systematic review, Chen et al. (2018) found a significant high prevalence of dental caries among overweight and obese children from high-income countries in both primary and permanent teeth, but not in those from low- and middle-income countries, as is the case of Cambodia, and that dental caries were associated to an increased consumption of sugar. They also observed that dental enamel is weaker in children than in adolescents or young adults (Chen et al., 2018).

In a study with 3985 participants, from which 1126 (28.3%) children (under 4 years old) were from the province Phnom Penh, as our participants, a high consumption (around 80%) of sugary

drinks was observed (Sheiham, 2009). In another study with Cambodian children (7, 10 and 13 years old), sugar intake was $28.42 \pm 2.528\text{g}$ from which 46% were from commercial beverages and snacks (Shikanai et al., 2014); however, no associations were found between body weight and sugar intake. Also, a more recent study conducted in 121 mother-child pairs (from 18 to 36 months-old children living in a rural area of Cambodia) found that early childhood caries and maternal caries prevalence were 54.5% and 84.3%, respectively, and that breastfeeding after 18 months, sugary food and beverage intake for the child and late introduction of toothbrushing for the child (among others) were indicators for early childhood caries (Kubota et al., 2020).

As previously mentioned, the high level of dental caries in our participants might be linked to the poor oral health hygiene, but the recent trend of high sugar consumption in Cambodia should also be considered, despite participants' characteristics. Although eating and drinking habits were not evaluated in this study, during data collection children were often eating sweets and had easy access to various types of sweet foods or drinks from street sellers, which may affect their oral health and nutritional status. Furthermore, they were vulnerable children living in a low-income environment with possible low food availability, contrarily to medium- or higher-incomes environments as cited in

the literature, which impair their eating habits and nutritional status.

When comparing decayed, missing and filled teeth across age-strata from findings of Cambodian National Oral Health Surveys from 1990 (Petersen, 2003) and 2011 (Chher et al., 2016), our study confirms the tendency of 2011 with children showing worse results than adolescents.

Despite no significant differences were found for DMFT according to sex, as observed by Kassebaum et al. (2017), or local of the study, our participants aged 6–11 years old presented a lower mean DMFT (6.7 ± 4.0) than children of same age and province (Phnom Penh) from the 2011 Cambodian National Oral Health Survey (Chher et al., 2016), but higher than those of the 1999 Vietnam National Oral Health Survey (mean DMFT = 6.2) (Do et al., 2011). In addition, our participants aged 12–14-year-old demonstrated a slightly higher mean DMFT (4.0 ± 2.9) in comparison to 12–13-year-old adolescents (3.2 ± 2.9) of the 2011 survey (Chher et al., 2016), which may raise some concern about eating and drinking habits. The mean DMFT of the study was 5.8 ± 3.8 ranging between 0 and 19 teeth affected. This may be explained by the recent trend of increasing sugar consumption in Cambodia, as aforementioned, and insufficient fluoride exposure (Petersen and Ogawa, 2016). Exactly, dental caries has been associated to an increased consumption of sugar (Chen et al., 2018)

and sugarcane production has become a large industry in Cambodia during the continuing economic development (WHO, 2015). In relation to the fluoride exposure, the problem in Cambodia is that some regions have too much fluoride and arsenic in drinking water, and other regions have insufficient exposure of fluoride (Feldman et al., 2007). Small amounts of fluoride are beneficial for teeth, but high amounts can destroy them and be accumulated in bones leading to crippling skeletal damage; therefore, children are at risk (Psoter et al., 2005). Other causes of high level of dental caries in Cambodia can be linked to hygiene habits, which are still lacking. For example, one in five 12 years old from rural children had never brushed their teeth (Chu et al., 2008). Also, levels of salivary *Streptococci mutans* can be also causes of caries in infants (Maciel et al., 2001).

In low- and middle-income countries, most of the dental caries is untreated, and teeth are often extracted when they cause pain or oral infection (WHO, 2017b). During this study, and when the examination took place in schools far away from the NGO's dental clinics, it was not possible to treat deep dental caries, because of the high number of children and missing material and impossibility of cross infection control for all.

It should be highlighted the enormous and negative potential effects of the actual world pandemic caused by the Coronavirus in these already vulnerable Cambodian children and

adolescents. Therefore, prevention is even more urgent nowadays, especially in Cambodia. Nutritional and oral health literacy should be encouraged through healthy eating habits, such as, reducing sugar consumption in foods and drinks, increasing healthy eating and drinking habits (Bernabé and Sheiham, 2014; Machado-Rodrigues et al., 2018; Nogueira et al., 2020; Silva and Silva, 2017), oral health hygiene behaviors (brushing teeth after meals and before going to bed) and enhancing exposure to fluoride (via toothpaste or fluoridating water) (Chher et al., 2016). Although it seems that the burden of untreated caries is changing from children to adults (Kassebaum et al., 2017), is also imperative to obtain a baseline oral health information to local authorities and oral health systems be able to plan and identify those more vulnerable children.

Limitations

The limitations of this study should be considered when interpreting these results. Firstly, the prevalence of children according to age was different with the oldest group being the less represented ($n = 19$; 92 children aged 12–14yrs and 233 children aged 6–11yrs). Secondly, it was a cross-sectional study, which limits the ability to identify the cause-effect relationship. Thirdly, malnutrition, food consumption patterns including sugary foods and oral health hygiene habits were not monitored.

Conclusions and implications

This study demonstrated a poor nutritional status, the presence of malnutrition and a remarkably high prevalence of dental caries in vulnerable and at-risk Cambodian children and adolescents (orphans, victims of abuse and/or abandoned) with great incidence in young ages from 6 to 11 years old. Participants with low BMI-for-age (underweight) were the most affected by dental caries presenting significantly high levels of DMFT index. The recent trend of enormous consumption of sugar in Cambodia and the lack of oral hygiene habits may be negatively affecting children and adolescents' dental caries prevalence, especially in this moment of the pandemic by COVID-19. Therefore, prevention is urgent and longitudinal studies monitoring oral and general health with nutritional disorders are much needed, especially in evaluating early childhood dental caries experience and nutritional intakes, with particular attention for children from lower and study's age-strata, and interactions between risk and protective factors also related to infant feeding practices. Nutritional and oral health literacy should be encouraged.

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References

- Bernabé, E.; Sheiham, A. 2014. Age, period and cohort trends in caries of permanent teeth in four developed countries. *American Journal of Public Health*, 104: e115–e121. DOI: 10.2105/AJPH.2014.301869.
- Black, R. E.; Victora, C. G.; Walker, S. P.; Bhutta, Z. A.; Christian, P.; Onis, M. de; Ezzati, M.; Grantham-McGregor, S.; Katz, J.; [...] The Maternal and Child Nutrition Study Group. 2013. Maternal and Child Nutrition Study Group: maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, 382: 427–451. DOI: 10.1016/S0140-6736(13)60937-X.
- Chen, D.; Zhi, Q.; Zhou, Y.; Tao, Y.; Wu, L.; Lin, H. 2018. Association between dental caries and BMI in children: a systematic review and meta-analysis. *Caries Research*, 52: 230–245. DOI: 10.1159/000484988.
- Chher, T.; Turton, B. J.; Hak, S.; Beltran, E.; Courtel, F.; Durward, C.; Hobdell, M. 2016. Dental caries experience in Cambodia: findings

- from the 2011 Cambodia National Oral Health Survey. *Journal of International Oral Health*, 8(1): 1–7.
- Chu, C. H.; Wong, A. W.; Lo, E. C.; Courtel, F. 2008. Oral health status and behaviours of children in rural districts of Cambodia. *International Dental Journal*, 58(1): 15–22. DOI: 10.1111/j.1875-595x.2008.tb00172.x.
- De Onis, M. 2015. World Health Organization Reference Curves. In: Frelut, M. L. (ed.). *The ECOG's eBook on Child and Adolescent Obesity*. Brussels, The European Childhood Obesity Group. Available at: <http://ebook.ecog-obesity.eu>.
- Do, L. G.; Spencer, A. J.; Roberts-Thomson, K. F.; Trinh, H. D.; Nguyen, T. T. 2011. Oral health status of Vietnamese children: findings from the National Oral Health Survey of Vietnam 1999. *Asia-Pacific Journal of Public Health*, 23(2): 217–27. DOI: 10.1177/1010539509340047.
- Dye, B. A.; Arevalo, O.; Vargas, C. M. 2010. Trends in paediatric dental caries by poverty status in the United States, 1988-1994 and 1999-2004. *International Journal of Paediatric Dentistry*, 20: 132–143. DOI: 10.1111/j.1365-263X.2009.01029.x.
- Feldman, P. R.; Rosenboom, J. W.; Saray, M.; Navuth, P.; Samnang, C.; Iddings, S. 2007. Assessment of the chemical quality of drinking water in Cambodia. *Journal of Water Health*, 5(1): 101–16. DOI: 10.2166/wh.2006.048.
- Forouzanfar, M. H.; Afshin, A.; Alexander, L. T.; Anderson, H. R.; Bhutta, Z. A.; Biryukov, S.; Brauer, M.; Burnett, R.; Cercy, K.; Charlson, F. J. [...] GBD 2015 Risk Factors Collaborators. 2016. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053): 1659–1724. DOI: 10.1016/S0140-6736(16)31679-8.
- Global Nutrition Report. 2020. *Country nutrition profiles: Cambodia – the burden of malnutrition at a glance* [Online]. Global Nutrition Report. [Accessed in 14-1-2021]. Available at: <https://globalnutritionreport.org/resources/nutrition-profiles/asia/south-eastern-asia/cambodia/>.
- Hooley, M.; Skouteris, H.; Boganin, C.; Satur, J.; Kilpatrick, N. 2012. Body mass index and dental caries in children and adolescents: a systematic review of literature published 2004 to 2011. *Systematic Reviews*, 21(1): 57. DOI: 10.1186/2046-4053-1-57.
- Kassebaum, N. J.; Smith, A. G. C.; Bernabé, E.; Fleming, T. D.; Reynolds, A. E.; Vos, T.; Murray, C. J. L.; Marcenes, W.; GBD 2015 Oral Health Collaborators. 2017. Global, regional, and national prevalence, incidence, and disability-adjusted life years for oral conditions for 195 Countries, 1990-2015: a systematic analysis for the Global Burden of Diseases, Injuries, and Risk Factors. *Journal of Dental Research*, 96(4): 380–387. DOI: 10.1177/0022034517693566.
- Khitdee, C. 2017. The epidemiology of early childhood caries. *Thai Dental Public Health Journal*, 22(Supp 1): 3–10.
- Kubota, Y.; San Pech, N.; Durward, C.; Ogawa, H. 2020. Association between early childhood caries and maternal factors

- among 18- to 36-month-old children in a rural area of Cambodia. *Oral Health & Preventive Dentistry*, 18(1): 973–980. DOI: 10.3290/j.ohpd.a45438.
- Machado-Rodrigues, A. M.; Fernandes, R. A.; Silva, M. R.; Gama, A.; Mourão, I.; Nogueira, H.; Rosado-Marques, V.; Padez, C. 2018. Overweight risk and food habits in Portuguese pre-school children. *Journal of Epidemiology and Global Health*, 8(3-4): 106–109. DOI: 10.2991/j.jegh.2017.10.006.
- Maciel, S. M.; Marcenés, W.; Sheiham, A. 2001. The relationship between sweetness preference, levels of salivary mutans streptococci and caries experience in Brazilian pre-school children. *International Journal of Paediatric Dentistry*, 11(2): 123–130. DOI: 10.1046/j.1365-263x.2001.00259x.
- Marfell-Jones, M. 2006. *International standards for anthropometric assessment*. Potchefstroom, South Africa, International Society for the Advancement of Kinanthropometry.
- Moynihan, P. J.; Kelly, S. A. M. 2014. Effect on caries of restricting sugars intake. *Journal of Dental Research*, 93(1): 8–18. DOI: 10.1177/0022034513508954.
- Nogueira, H.; Costeira, M. M.; Pereira, E.; Costa, D.; Gama, A.; Machado-Rodrigues, A.; Silva, M. R.; Marques, V. R.; Padez, C. M. 2020. The environment contribution to sex differences in childhood obesity and organized sports engagement. *American Journal of Human Biology*, 32(2): e23322. DOI: 10.1002/ajhb.23322.
- Petersen, P. E. 2003. The World Oral Health Report 2003: continuous improvement of oral health in the 21st century — the approach of the WHO Global Oral Health Programme. *Community Dentistry and Oral Epidemiology*, 31(Suppl. 1): S3–S23. DOI: 10.1046/j..2003.com122x.
- Petersen, P. E.; Ogawa, H. 2016. Prevention of dental caries through the use of fluoride - the WHO approach fluoride and prevention of dental caries. *Community Dentistry Health*, 33(2): 66–68.
- Psoter, W. J.; Reid, B. C.; Katz, R. V. 2005. Malnutrition and dental caries: a review of the literature. *Caries Research*, 39(6): 441–447. DOI: 10.1159/000088178.
- Sheiham, A. 2009. Closing the gap in a generation: health equity through action on the social determinants of health. A report of the WHO Commission on Social Determinants of Health (CSDH). 2008. *Community Dentistry Health*, 26(1): 2–3.
- Shikanai, S.; Koun, R. L.; Takeichi, H.; Emiko, S.; San, P.; Sarukura, N.; Kamoshita, S.; Yamamoto, S. 2014. Sugar intake and body weight in Cambodian and Japanese children. *The Journal of Medical Investigation*, 61(1–2): 72–78. DOI: 10.2152/jmi.61.72.
- Shivakumar, S.; Srivastava, A.; Shivakumar, G. C. 2018. Body Mass Index and dental caries: a systematic review. *International Journal of Clinical Pediatric Dentistry*, 11(3): 228–232. DOI: 10.5005/jp-journals-10005-1516.
- Silva, M.-R. G., Silva, H.-H. 2017. Comparison of body composition and nutrients' deficiencies between Portuguese rink-hockey players. *European Journal of Pediatrics*, 176(1): 41–50. DOI: 10.1007/s00431-016-2803-x.

- Turton, B.; Chher, T.; Sabbah, W.; Durward, C.; Hak, S.; Lailou, A. 2019. Epidemiological survey of early childhood caries in Cambodia. *BMC Oral Health*, 19(1): 107. DOI: 10.1186/s12903-019-0800-y.
- Turton, B.; Patel, J.; Hill, R.; Sieng, C.; Durward, C. 2020. Healthy kids Cambodia: a novel approach to triage for dental care in a population with extreme caries experience. *Community Dentistry and Oral Epidemiology*, 48(1): 56-62. DOI: 10.1111/cdoe.12503.
- United Nations. 2020. *Human Development Report 2020. The next frontier: human development and the Anthropocene. Briefing note for countries on the 2020 Human Development Report: Cambodia* [Online]. [Accessed in 14-1-2021]. Available at: <http://hdr.undp.org/sites/default/files/Country-Profiles/KHM.pdf>.
- World Bank. 2017. *The World Bank in Cambodia* [Online]. [Accessed in 25-1-2021]. Available at: <https://www.worldbank.org/en/country/cambodia>.
- World Dental Federation. 2015. *The challenge of oral disease: a call for global action. The oral health atlas*. 2nd edition. Geneva, World Dental Federation. Available at: <https://www.fdiworldental.org/oral-health-atlas>.
- World Health Organization. 2012. *Annual Health Statistics Report 2012: department of Planning and Health Information Phnom Penh*. Geneva, World Health Organization.
- World Health Organization. 2013. *Oral health surveys basic methods*. 5th edition. Geneva, World Health Organization.
- World Health Organization. 2015. *Sugars intake for adults and children*. Publication n.º WHO/NMH/NHD/15. Geneva, World Health Organization.
- World Health Organization. 2017a. *BMI-for-age (5-19 years)* [Online]. [Accessed in 1-12-2017]. Available at: <https://www.who.int/toolkits/growth-reference-data-for-5to19-years/indicators/bmi-for-age>.
- World Health Organization. 2017b. *World Health Statistics 2017: monitoring health for the SDGs, Sustainable Development Goals*. Geneva, World Health Organization.
- Zahid, N.; Khadka, N.; Ganguly, M.; Varimezova, T.; Turton, B.; Spero, L.; Sokal-Gutierrez, K. 2020. Associations between child snack and beverage consumption, severe dental caries, and malnutrition in Nepal. *International Journal of Environmental Research and Public Health*, 17(21): 7911. DOI: 10.3390/ijerph17217911.

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The Unidentified Skeletal Collection of Capuchos Cemetery (Santarém) housed at the University of Coimbra

A Coleção de Esqueletos Não Identificados do Cemitério dos Capuchos (Santarém) da Universidade de Coimbra



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Abstract The aim of this article is to present to the scientific and academic community a new osteological collection housed at the Department of Life Sciences from the University of Coimbra (Portugal), the Unidentified Skeletal Collection of the Capuchos Cemetery. The skeletons were collected from the same cemetery as those of the 21st Century Identified Skeletal Collection, however their identity is unknown. The collection is comprised of 73 individuals, of which 68 are adults of both sexes (34 females, 33 males, and one individual of unknown sex) and five are non-adult individuals. It is estimated that the majority of adult individuals have a European ancestry

Resumo O objetivo deste artigo é apresentar à comunidade científica e académica a Coleção de Esqueletos Não Identificados do Cemitério dos Capuchos. Os esqueletos, de indivíduos contemporâneos, foram recolhidos no mesmo cemitério que os da Coleção de Esqueletos Identificados Século XXI, porém a sua identificação é desconhecida. A coleção é composta por 73 indivíduos, sendo 68 adultos de ambos os sexos (34 mulheres, 33 homens e um indivíduo de sexo desconhecido) e cinco não adultos. Estimou-se que a maioria dos indivíduos adultos tinha uma ancestralidade europeia (n = 52; 76,47%). Os esqueletos estão razoavelmente preservados, embo-

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(n = 52; 76.47%). The skeletons are reasonably preserved, although several are incomplete (n = 8; 10.96%) as result of both taphonomic changes occurred during the burial, and also due to experimental researches performed (some of which destructive). Regarding the osteopathology, it was observed that the majority of adult individuals have pathological changes (n = 67; 98.53%), with degenerative pathology being the most frequent in the sample. In addition, 13 individuals (17.81%) exhibit medical devices and/or signs of surgical procedures. The Unidentified Skeletal Collection of the Capuchos Cemetery is an osteological collection that, although not containing individual biographical data, has contributed to teaching, research and development of new methods for Biological and Forensic Anthropology in subjects such as osteology, morphology, biological profile, paleopathology, and cremains.

Keywords: Skeletal collection; biological profile; paleopathology; forensic anthropology; biological anthropology.

Introduction

The collection of human skeletons, which are an invaluable source of information to anthropological research, has become a worldwide practice, and resulted in several reference osteological collections. These collections are of paramount importance to evaluate biological profile, human variability, paleopathologies, and to test and develop

new methods to assess these parameters. As is widely known, the earliest human osteological collections were assembled in Europe and the United States of America, promoted by great names of the history of Anthropology such as John Hunter, Pierre Paul Broca, and William Turner. The Hamman Todd collection (with over 3000 individuals), the Terry collection (with 1728 individuals) and the Huntington collection (with 2933

Palavras-chave: Coleção osteológica; perfil biológico; paleopatologia; antropologia forense; antropologia biológica.

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individuals) were among the first, and were used for educational and research purposes, thus allowing the development of techniques both in Forensic Anthropology and Bioarchaeology (Rothschild and Rothschild, 1995; Jantz and Jantz, 1999; Hunt and Albanese, 2005). In Portugal, the first collections gathered during the 19th century were the Ferraz de Macedo Collection, housed in Lisbon, and the Medical School Collection, housed in Coimbra (Rocha, 1995; Cunha and Wasterlain, 2007; Umbelino and Santos, 2011). During the first half of the 20th century, two more identified collections were collected in Coimbra, the Identified Skeletal Collection and the International Exchange Collection, and one in Oporto, the Mendes Correia Collection (Rocha, 1995; Cunha and Wasterlain, 2007; Umbelino and Santos, 2011; Cardoso and Marinho, 2015/2016). At the end of the last century, the Bocage Museum Identified Skeletal Collection started to be built (Cardoso, 2006). And, recently three more were presented, the Évora Identified Skeletal Collection (Anselmo et al., 2016), the 21st Century Identified Skeletal Collection (Ferreira et al., 2014; 2021), and the BoneMedLeg Collection (Cardoso et al., 2020). These identified osteological collections have functioned as large reservoirs of scientific research.

Besides the identified osteological collections, the unidentified ones are also relevant. Despite known limitations, they contribute to improve the knowledge

of different human populations, namely how they evolved, how they adapted to different environments and constraints, how they lived, and how they cared for the deceased.

The Unidentified Skeletal Collection from the Capuchos Cemetery (CC_NI: acronym of the Portuguese name: Cemitério dos Capuchos – Não Identificados) is housed at the Forensic Anthropology Laboratory of the Life Sciences Department of the University of Coimbra, Portugal (José, 2019; Tomé, 2019). It is currently composed of 73 individuals without basic information such as date and place of birth, occupation, age-at-death and cause of death. The purpose of this paper is to characterize the taphonomic, biological and paleopathological profiles of these individuals and present them to the scientific community.

Legal contextualization of the collection

In Portugal the creation of human skeletal collections emerged from the recurring practice of exhuming unclaimed corpses after a few years of burial (the law states that the exhumation can be executed after three years, as long as the corpse is skeletonized). After the legal time of burial has passed and there are no signs of family worship, the human remains of the individuals are exhumed for ossuaries or cremated (Ferreira, 2012; Ferreira and Cunha, 2013/2014; Ferreira

et al., 2019; Coelho, 2020). Considering the Portuguese legal framework and the current overcrowding of some cemeteries (Nascimento and Trabulo, 2008; Ferreira, 2012; Ferreira and Cunha, 2012; Ferreira and Cunha, 2013/2014; Ferreira et al., 2019; Coelho, 2020), including the Capuchos Cemetery (Santarém), the University of Coimbra proposed the use of this unclaimed osteological material for scientific research and pedagogical purposes, establishing a protocol with the Santarém City Council (Ferreira et al., 2014). This collaboration, with the positive legal decision from the Ethics Committee of the Faculty of Medicine of the UC (CE_026.2016), originated the 21st Century Identified Skeletal Collection (CEI/XXI) (Ferreira et al., 2014; 2020) and, later, the Unidentified Skeletal Collection of the Capuchos Cemetery (CC_NI), both housed at the Forensic Anthropology Laboratory of the Life Sciences Department (José, 2019; Tomé, 2019).

Chronological framework

The individuals from this collection are of unknown identity as there are no cemetery records which can characterize them in terms of their biography.

At the time of the Portuguese civil war (1832–1834) and during the cholera epidemic (also in the 19th century), the burial sites in Santarém were overcrowded. In order to face this situation, and since burials were

no longer allowed inside the temples, convent fences were created in order to serve as temporary burial sites (Queiroz, 2002). In the wake of the Portuguese Liberal Legislation of 1834, the Capuchin monastery was extinguished after the Liberation Army entered Santarém in May of the same year (Queiroz, 2002). According to Cemetery Regulations published in the Municipal Postures of 1863, the integration of the Church and the passage from the Capuchin Monastery to municipal heritage (public cemetery) took place in 1835 (Queiroz, 2002; Município de Santarém, 2020).

Hence, the recovery of eleven metal plates with names and dates of death in 12 individuals of this collection is significative. The oldest date of death goes back to 1865 and the most recent date of death refers to 1942. Considering this information, one can assume that the individuals of this collection died most likely between the late 19th and early 20th centuries. However, it is known that the context of the exhumation of the skeletal remains was carried out by the cemetery gravediggers (the information on when these exhumations were executed is not available) and, therefore, these identification plates may not correspond to these individuals (José, 2019; Tomé, 2019). Consequently, this is only a probable chronology of the collection and further research is needed to its accurate dating.

Description of the collection

The Unidentified Skeletal Collection of Capuchos Cemetery is currently composed of reasonably preserved skeletons of 73 individuals, of which 68 are adults of both sexes and five are non-adult individuals (Tables 1 and 2).

Taphonomic profile

The individuals from CC_NI underwent initial cleaning (in loco, by the cemetery professionals) upon exhumation and were later transported to the Forensic Anthropology Laboratory in plastic bags. In the laboratory, the cleaning process was completed (using wooden brushes

and wood stiletos), and each bone piece was marked with varnish and acetate pen. Afterwards, the skeletons were individually placed in boxes identified with the collection acronym and an individual serial number (Figure 1).

The conservation status of adult individuals was evaluated according to the IPG – General Preservation Index (Ferreira, 2012; Ferreira and Cunha, 2012), in order to evaluate the general preservation parameters of each bone. Furthermore, the preservation analysis of non-adult individuals was done according to the Buikstra and Ubelaker (1994) recommendations, adapted to the conditions of the present



Figure 1. General aspect of how each skeleton from the Unidentified Skeletal Collection of Capuchos Cemetery is stored.

collection. State of preservation of the skeletal material varies. The collection presents a range of cases, from IPG values that indicate an excellent state of preservation to skeletons which are generally incomplete and poorly preserved (Tables 1 and 2).

The individuals of CC_NI are reasonably preserved, although the majority of the skeletons (71; 97.26%) show some level of fragmentation. The appendicular skeleton, specifically the femur and tibia, is better preserved when compared to the axial skeleton in which the thoracic and sacred vertebrae are frequently damaged. It was also observed that small bones, such as those of the hand and feet, are partly absent, which may be due to the remains have been exhumed by cemetery gravediggers. As these bones are smaller, their recovery was more difficult.

It is observed that males (39.4% excellent or well preserved and 33.3% poor or incomplete and poorly preserved) tend to be in a better state of preservation than females (23.5% excellent or well preserved and 52.9% poor or incomplete and poorly preserved). Also, young adults tend to be better preserved than elderly individuals, although this difference is not statistically significant (Chi-square = 3.360; df = 4; P = 0.499).

It was also observed the preservation of soft tissues such as hair, beard, nails, and cartilage in some adult individuals (19; 27.94%). Other taphonomic alterations correspond to chromatic

changes (26 individuals; 35.62%), namely white, black, green and blue colours which are due to environmental factors of the cemetery itself (Henderson, 1987; Schultz, 1997; Dupras and Schultz, 2014), e.g., soil type, water infiltrations in the graves, or coffin materials such metal nameplates. Other materials such as clothes, personal objects, crucifixes, or costume jewellery associated with the skeletons could have also contributed to these taphonomic changes.

It is important to mention that several individuals were (and continue to be) object of study in practical classes and in various investigations (Table 3). Thus, the state of preservation of these skeletons was also conditioned by the fact that they are part of an osteological collection of a university laboratory. The use of these skeletons in practical classes is fundamental for a well-rounded training of future anthropologists, however, the continuous handling of bones increased the postmortem fragmentation (obviously the students are instructed on the good practices of handling the skeletons, in order to mitigate damages provoked by continuous handling). In addition, several investigations (including genetic approaches and research on thermal-induced changes) have been carried out based on the skeletons of this collection (25; 34.25%). These are often destructive since they require sampling for genetic or chemical analysis, or burning of bone parts (see below the collection research policies for investigation). In this

Table 1. Preservation and completeness of the adult individuals from the Unidentified Skeletal Collection of Capuchos Cemetery.

General Preservation Index	Sex										Total
	Female					Male					
	Young adult	Mature adult	Elderly adult	Young adult	Mature adult	Elderly adult	Young adult	Mature adult	Elderly adult		
Excellent preservation	0	1	0	0	0	1	0	0	0	0	2 (2.94%)
Well preserved	0	3	4	0	9	3	0	0	0	0	19 (27.94%)
Reasonably preserved	0	7	1	0	8	1	0	0	0	0	17 (25.00%)
Poor preservation	0	3	12	0	5	5	0	0	0	0	25 (36.77%)
Incomplete and poorly preserved	1	0	2	0	1	0	0	0	0	0	4 (5.88%)
Very incomplete and well preserved	0	0	0	0	0	0	0	0	0	0	0
Very incomplete and poorly preserved	0	0	0	0	0	0	1	0	0	0	1 (1.47%)
Total	1	14	19	0	23	10	1	0	0	0	68

Table 2. Preservation and completeness of the non-adult individuals from the Unidentified Skeletal Collection of Capuchos Cemetery.

Individual number	General Preservation Index	Age-at-death
CC_NI_19	Incomplete and poorly preserved	9.5–14.5 years
CC_NI_20	Well preserved	8.5–13.5 years
CC_NI_21	Well preserved	1–3 years
CC_NI_22	Very incomplete and well preserved	< 1 year
CC_NI_73	Very incomplete and well preserved	approximately 11 years

aspect, the situation of CC_NI is worse than that of 21st Century Identified Skeletal Collection. In order to avoid the CEI/XXI' degradation, unidentified skeletons are preferably used on destructive analyzes, including for the development and benchmarking of research protocols to be carried out in the CEI/XXI.

Biological profile

The methods applied to assess each of the parameters of the biological profile were selected for one or more of the following reasons: they were developed on the basis of CEI/XXI; they were developed for Portuguese populations, and they were and still are used worldwide.

To access the ancestry of these individuals (only adults) non-metric and metric methods were performed following Hefner (2009) and Navega et al. (2015), respectively. The morphological characteristics and cranial measures resulting of the application of these methods were uploaded in the statistical programs hefneR and AncesTrees, accessed on the Osteomics website (<http://osteomics.com/>) (d'Oliveira Coelho et al., 2020). As recommended, ancestry was initially estimated through morphological approach. The results obtained afterwards were used for the clusters selection during AncesTrees processing data. Due to poor preservation, ancestry was not estimated in 16 individuals, the remaining 52 adult individuals are European (Table 4).

Regarding sex estimation in adult individuals, several methods were applied for the iliac bones, long and tarsal bones and the skull. The iliac bones were analysed following the morphological recommendations of Buikstra and Ubelaker (1994), which allowed the evaluation of the shape and the presence or absence of dimorphic characteristics, and the metric method of Bruzek et al. (2017) which measurements were inserted in the software DSP2 – Probabilistic Sex Diagnosis. Regarding the long bones, the metric methods of Curate et al. (2016) for femur, and Wasterlain (2000) for humerus, femur, talus and calcaneus, were selected. The skull was only morphologically evaluated, following the recommendations of Buikstra and Ubelaker (1994). Firstly, the iliac bones were analysed. When these could not be evaluated, whether they were absent or too fragmented, metric methods results were considered. The results obtained through the skull analysis were only considered when the previous methods were not applicable. Half of the adult individuals were female (34; 50%), 33 were male (48.53%), and for one adult (1.47%) sex was not estimated due to its incompleteness and poor preservation (Table 1).

For adult individuals age-at-death estimation signs of skeletal senescence were observed, specifically the alterations of the pubic symphysis and the sternal end of the 4th rib, following the methods

Table 3. Research developed in the Unidentified Skeletal Collection of Capuchos Cemetery until the end of 2020.

Reference	Title/purpose of the study
Amarante (2016)	The impact of differential post-depositional taphonomy on bioanthropological research
Marques et al. (2016)	Osteometrics in burned human skeletal remains by neutron and optical vibrational spectroscopy
Piga et al. (2016)	A structural approach in the study of bones: fossil and burnt bones at nanosize scale
Vassallo et al. (2019)	The influence of gravity in bone heat-induced warping and its implications for the estimation of the pre-burning condition of human remains
Makhoul et al. (2017)	Experimental burning and real fire scenarios: are they comparable in terms of chemical anthropology?
Gonçalves et al. (2018)	Vibrational spectroscopy reveals intrabone, intraskeleton, and interskeleton variation in human bones
Mamede et al. (2018)	Potential of bioapatite hydroxyls for research on archaeological burned bone
Gabriel (2019)	Thermally induced changes: influence of heat exposure duration on colorometry, morphometry and chemometrics
José (2019)	Anthropological characterization of a sample from the Unidentified Skeletal Collection of Capuchos Cemetery
Tomé (2019)	Anthropological characterization of a sample from the Unidentified Skeletal Collection of Capuchos Cemetery
Coutinho (2020)	Impact of the deposition conditions of human bones and teeth on their chemometric profile

Table 4. Age group, sex and ancestry of the adult individuals from the Unidentified Skeletal Collection of Capuchos Cemetery.

Age Group	Sex						Total
	Female		Male		Unknown		
	European	Unknown	European	Unknown	European	Unknown	
Young adult	0	1	0	0	0	1	2 (2.94%)
Mature adult	12	2	20	3	0	0	37 (54.1%)
Elderly adult	13	6	7	3	0	0	29 (42.65%)
Total	25	9	27	6	0	1	68
	34 (50%)		33 (48.53%)		1 (1.47%)		

of Suchey-Brooks (1990) and İşcan et al. (1984; 1985). The characteristics of the auricular surface and acetabulum were also evaluated (Rougé-Maillart et al., 2009). Table 4 shows the results of age-at-death groups by sex: two individuals (2.94%) died young, before 30 years old; 37 (54.41%) were mature adults (with an age-at-death estimated between 30 to 60 years old), and 29 (42.65%) were elderly (> 60 years old). Concerning the non-adult individuals, age-at-death was estimated following Ubelaker (1979), AlQahtani et al. (2010), and the recommendations of Schaefer et al. (2009). The age-at-death of the five non-adult individuals ranges from birth to adolescence (Table 2). Since the individual CC_NI_73 is only comprised of two lumbar and two sacral vertebrae, in addition to bone maturation evaluation, these bone pieces were compared with non-adult individuals from this and other collections. It was concluded that its size and maturation status was similar to 11 years old individuals.

For stature estimation of the adult individuals, measurements were made on humerus and femur, and first and second metatarsal bones following the methods of Mendonça (2000) and Cordeiro et al. (2009), respectively. Of the 68 adult individuals, it was possible to estimate stature in 33 females and 30 males. The estimated stature of female individuals varies between 134.7cm and 171.3cm while the stature of male individuals lies between

145.8cm and 195.6cm. Although the two methods were applied, the minimum and maximum stature (including the standard deviations) were obtained through the maximum humerus length using the Mendonça (2000) method.

Non-metric traits

The analysis of non-metric characteristics was only performed in adult individuals, in order to classify the morphological variation of each individual and the laterality in which they were found. For this analysis a set of 31 characteristics were selected, of which three cranial (White and Folkens, 2005; Magalhães, 2018) and 28 postcranial (White and Folkens, 2005; Barnes, 2012; Fagundes et al., 2017). This collection presents great skeletal variability. The selected non-metric characteristics are frequent (Table 5), being observed in about 97% (females n = 32; males n = 30) of the adult individuals without differences between sexes. The scapula was the bone with the highest frequency of these morphological variations, with the scapular notch present in 70% of the individual, followed by the bipartite talar facets observed in 46% of adult individuals.

Paleopathological profile

To investigate pathological changes, all bones were subjected to a careful visual inspection examined under good lighting conditions, following recommendations provided by multiple authors (Aufderheide

Table 5. Frequency of the non-metric traits of the adult individuals from the Unidentified Skeletal Collection of Capuchos Cemetery.

Non-metric Character	N/ Frequency
Metopic suture	4 (7%)
Supernumerary ossicles	7 (12%)
Concha Bullosa	15 (28%)
Supraclavicular foramen	0
Bifid acromial end	0
Scapula foramen	8 (13%)
Scapular notch	42 (70%)
Bipartite acromion	1 (2%)
Septal aperture	3 (5%)
Humeral septal translucency	0
Sternal cleft	0
Sternal perforation	9 (20%)
Manubrium foramen	0
Manubriosternal synostosis	9 (16%)
Spina bifida occulta	0
Butterfly vertebrae	0
Sacralization	3 (5%)
Lumbarization	0
Supra or infra numerical vertebrae	2 (4%)
Partial accessory transverse foramina	7 (11%)
Accessory transverse foramina	14 (23%)
Third trochanter	0
Hypotrochanteric Fossa	0
Bipartite patella	0
Patellar notch	0
Bipartite calcaneal facets	15 (27%)
Os trigonum	0
Absence of the anterior talar joint face	0
Bipartite talar facets	26 (46%)
Fibular trochlea	0
Retrotrochlear eminence	0

and Martín, 1998; Ortner, 2003; Waldron, 2009; Wedel and Galloway, 2014; Nikita, 2017). An exhaustive paleopathological study is not presented here, but only the general results in order to illustrate the potential of this collection. No bone lesions were found in the five non-adult individuals. However, it is important to note that their state of preservation and completeness (see Table 2) prevented a comprehensive analysis.

This preliminary pathological analysis revealed several types of lesions. As usual, the most common were the articular and non-articular degenerative lesions, present, as expected, in all elderly individuals (Figure 2), and in 36 out of 37 mature adults. The only exception was one female, with an age-at-death estimated between 30 and 40 years old. Twelve individuals shown vertebral lesions compatible with DISH, presenting uniform distribution both in terms of age-at-death and sex. Osteoporosis was suspected in three elderly women. Further diagnosis is to be confirmed using osteodensitometry. A mature man presented round lesions in the metatarsals, similar to those caused by gout, and other had bilateral *cribra orbitalia*. A woman and two men, all elderly, presented lesions with irregular edges disseminated by their skeletons, possibly related to a neoplastic condition (Figure 3).



Figure 2. Eburnation in the elbow joints from the individual CC_NI_12 (elderly male).

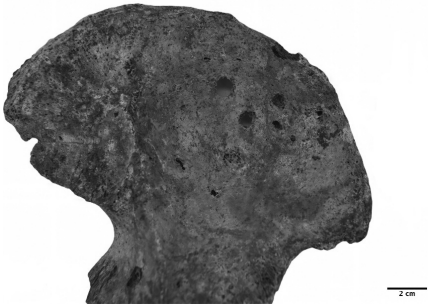


Figure 3. Osteolytic foci suggestive of neoplasia in the left coxal bone from the individual CC_NI_69 (elderly male).

Thirty-six adult individuals (52.21%) exhibited antemortem traumatic injuries (five mature and nine elderly females; and 16 mature and six elderly males), more frequent observed in the axial skeleton, particularly in the ribs (Figure 4). Two males shown traumatic lesions with sharp edges, homogeneous staining and without osteogenic reaction to macroscopic level (Figure 5).

It should be recalled that these results represent a preliminary diagnosis and more detailed studies of these lesions are necessary to reach a more concrete diagnosis.

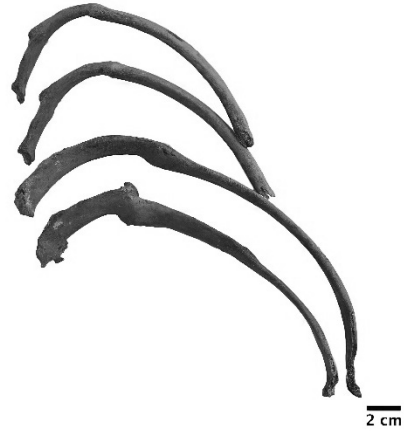


Figure 4. Left ribs with bone callus from the individual CC_NI_6 (mature male).



Figure 5. Perimortem trauma in the right tibia and left fibula from the individual CC_NI_61 (mature male).

Prostheses, other medical devices, and signs of surgical procedures

Thirteen adult individuals (19.12%) have medical devices and/or signs of surgical procedures: one with amputation of the legs (elderly female); one with a pacemaker (mature female); three with dental prostheses (one mature and two elderly females and a mature male); two with ocular prostheses (elderly females); three with ender nails (one mature and one elderly females; and one mature male); two with buttress plates (one elderly female and one mature male) (Figure 6); and one with a hip prostheses (mature male). In relation to the amputation and the prosthetic devices in the appendicular skeleton, bone remodelling was observed in all the individuals, which indicates that the procedures were performed several years before death.

The study of these orthopaedic devices in Forensic Anthropology and their use in training, is relevant due to their uniqueness. These allows to understand the surgical techniques used, to identify the constituent materials, and possibly achieve a chronology and country of origin, which are valuable clues in the forensic process, particularly in the identification process.



Figure 6. Buttress plates in the left fibula of the individual CC_NI_38 (mature male).

Potential and contribution of the collection

After the arrival of the Unidentified Skeletal Collection of Capuchos Cemetery at the Department of Life Sciences (between 2013 and 2015), these human remains were used in practical classes, significantly contributing to the teaching and training of Forensic Anthropology, Bioarchaeology, and Forensic Medicine undergraduate, master, and doctoral students. This collection has been also used in outreach activities to elementary and high school students,

allowing younger students to have direct contact with human skeletons, to perform morphological and pathological appraisals and understand their variability. This was only possible because, although small and unidentified, this collection has a great variability in morphological features and in bone lesions, which allows to understand the difference between normal skeletal characteristic and pathological conditions, as well as to identify idiosyncratic characteristics. More recently, in 2016, researchers were allowed to include this osteological material in their investigations. The collection has been the focus of several and diverse researches, being widely used in the investigation of thermal-induced bone changes (see Table 3).

This collection would benefit from more records of these individuals, including antemortem information about ancestry, sex, age-at-death, stature, dates of birth and death, cause and manner of death, which would increase its scientific potential. Twelve individuals arrived from the cemetery with nameplates providing names, date of birth and/or death, however it is still necessary to verify whether there is a relation between these plates and the burials (as referred above, it is not certain that they are indeed the identification plates of these inhumations). If this information could be accessed, comparisons with the various osteological collections in the world would be possible, as well as

the development and/or testing of new methods. It is hoped that, in the future, will be possible to search for potential antemortem data from these individuals which would increase the potential of this collection. Although it is known that the chances of identifying these individuals are very low.

Even though it is comprised of unidentified skeletons, this osteological collection is valuable due to its morphological and pathological variability thus benefiting future generations of physical and forensic anthropologists. In other words, the osteological remains that constitutes the Unidentified Skeletal Collection of the Capuchos Cemetery are available both for training and development of new researches.

In what concerns the collection research policies for investigation, the general rules for accessing the collection consist on a first evaluation where it is verified whether the research in question is relevant or whether it is similar to another one already carried out or in progress. One more topic evaluated is the issue of preservation and the need of more or less destructive analyses. In these cases, the relationship between the loss of bone material and the scientific advance obtained, and its potential contribution to society is considered. For example, in the case of cremains, despite several investigations in this area involving some destruction of bones and/or teeth, the social return is massive,

particularly in Portugal where, in recent years, large fires have been taking place with several fatalities, and, therefore, the role of Anthropology is increasingly relevant both in the recovery of the remains in the field and in the process of identification of the victims.

We believe that this type of collections, as they are not composed of identified individuals, have been neglected, and it is worth disclosing them to the scientific community. With this article, the authors hope to have highlighted the potential of this collection for both teaching and research. Despite all the technological innovations of the last decades, the great instruments of anthropologists continue to be their hands and their eyes, therefore, systematic training with human skeletal material is of paramount importance. Also, the potential of the collection for investigation was shown, emphasizing its use in the development of research protocols on various topics, especially on cremains, a topic that is increasingly relevant in countries like Portugal, where catastrophic fires are more and more frequent, as a result, among other factors, of climate changes. Briefly, we hope to encourage the scientific community to disseminate this type of collections, and to develop and curate them.

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References

- AlQahtani, S. J.; Liversidge, H. M.; Hector, M. P. 2010. Atlas of tooth development and eruption. *American Journal of Physical Anthropology*, 142(3): 481–490. DOI:10.1002/ajpa.21258.
- Anselmo, D.; Capela e Silva, F.; Fernandes, T. 2016. Characterization of hypertrophic osteoarthropathy in an identified skeleton from Évora, Portugal, using combined and comparative morphology and microscopy. *International Journal of Paleopathology*, 12: 11–16. DOI:10.1016/j.ijpp.2015.11.001.

- Amarante, A. 2016. *Burned bones vs unburned bones: a pilot study about the impact of differential post-depositional taphonomy on bioanthropological research*. Master Dissertation in Evolution and Human Biology, University of Coimbra.
- Aufderheide, A.; Martín, C. 1998. *The Cambridge encyclopaedia of human paleopathology*. Cambridge, Cambridge University Press: 97–382.
- Barnes, E. 2012. *Atlas of developmental field anomalies of the human skeleton: a paleopathology perspective*. Hoboken, John Wiley & Sons.
- Brooks, S.; Suchey, J. M. 1990. Skeletal age determination based on the os pubis: a comparison of the Acsadi-Nemeskeri and Suchey-Brooks methods. *Human Evolution*, 5(3): 227–238. DOI:10.1007/BF02437238.
- Bruzek, J.; Santos, F.; Dutailly, B.; Murail, P.; Cunha, E. 2017. Validation and reliability of the sex estimation of the human os coxae using freely available DSP2 software for bioarchaeology and forensic anthropology. *American Journal of Physical Anthropology*, 164: 440–449. DOI:10.1002/ajpa.23282.
- Buikstra, J.; Ubelaker, D. 1994. Standards for data collection from human skeletal remains. Proceedings of a Seminar at the Field Museum of Natural History, Arkansas Archaeological Survey Research Series, 44. *Fatteville: Arkansas Archaeological Survey*: 17–21. DOI: 10.1002/ajhb.1310070519.
- Cardoso, H. F. V. 2006. The Collection of identified human skeletons housed at the Bocage Museum (National Museum of Natural History), Lisbon, Portugal. *American Journal of Physical Anthropology*, 129: 173–176. DOI:10.1002/ajpa.20228.
- Cardoso, H. F. V.; Marinho, L. 2015/2016. Lost and then found: The Mendes Correia collection of identified human skeletons curated at the University of Porto, Portugal. *Antropologia Portuguesa*, 32/33: 29–46.
- Cardoso, H. F. V.; Marinho, L.; Caldas, I. M.; Puentes, K.; Andrade, M.; Toso, A.; Assis, S.; Magalhães, T. 2020. Historical, demographic, curatorial and legal aspects of the BoneMedLeg human skeletal reference collection (Porto, Portugal). *Anthropologischer Anzeiger*, 77(1): 57–73. DOI:10.1127/anthranz/2019/1023.
- Coelho, C. 2020. A era digital na Antropologia Forense. *Cadernos Ibero-Americanos de Direito Sanitário*, 9(1): 141–156. DOI: 10.17566/ciads.v9i1.594.
- Cordeiro, C.; Muñoz-Barús, J. I.; Wasterlain, S. N.; Cunha, E.; Vieira, D. N. 2009. Predicting adult stature from metatarsal length in a Portuguese population. *Forensic Science International*, 193: 131.e1–131.e4. DOI:10.1016/j.forsciint.2009.09.017.
- Coutinho, T. 2020. *Avaliação do impacto das condições de deposição de ossos e dentes humanos no seu perfil quimiométrico*. Master Dissertation in Forensic Anthropology, University of Coimbra.
- Cunha, E.; Wasterlain, S. N. 2007. The Coimbra Identified Osteological Collections. In: Grupe, G.; Peters, J. (eds.). *Skeletal series and their socio-economic context*. Leidorf, Rahden/Westf.: 23–33. DOI:10.1016/j.forsciint.2009.09.017.
- Curate, F.; Coelho, J.; Gonçalves, D.; Coelho,

- C.; Ferreira, M. T.; Navega, D.; Cunha, E. 2016. A method for sex estimation using the proximal femur. *Forensic Science International*, 266: 579.e1–579.e7. DOI:10.1016/j.forsciint.2016.06.011.
- Dupras, T.; Schultz, J. 2014. Taphonomic bone staining and color changes in forensic contexts. In: Pokines, J.; Symes, T.; Steven A. (eds.). *Manual of forensic taphonomy*. Boca Raton, FL, CRC Press: 315–340.
- Fagundes, L.; Rodrigues, H.; Antunes, S.; Cunha, E. 2017. Asymptomatic anatomical variations of the postcranial skeleton as a marker for human identification. *La Revue de Médecine Legale* (8): 191–199. DOI: 10.1016/j.medleg.2017.10.034.
- Ferreira, M. T. 2012. *Para lá da morte: estudo tafonómico da decomposição cadavérica e da degradação óssea e implicações na estimativa do intervalo pós-morte*. Doctoral Dissertation in Forensic Anthropology, University of Coimbra.
- Ferreira, M. T.; Cunha, E. 2012. Será credível estimar o PMI em restos cadavéricos em avançado estado de decomposição? *Cadernos do GEEvH*, 1(2): 7–20.
- Ferreira, M. T.; Cunha, E. 2013/2014. A decomposição cadavérica e as dificuldades de gestão dos espaços funerários. *Antropologia Portuguesa*, 30/31: 77–97. DOI: 10.14195/2182-7982_31_4.
- Ferreira, M. T.; Vicente, R.; Navega, D.; Gonçalves, D.; Curate, F.; Cunha, E. 2014. A new forensic collection housed at the University of Coimbra Portugal: the 21st Century Identified Skeletal Collection. *Forensic Science International*, 245: 202.e1–202.e5. DOI:10.1016/j.forsciint.2014.09.021.
- Ferreira, M. T.; Coelho, C.; Makhoul, C.; Navega, D.; Gonçalves, D.; Cunha, E.; Curate, F. 2021. New data about the 21st Century Identified Skeletal Collection (University of Coimbra, Portugal). *International Journal of Legal Medicine*, 135: 1087–1094. DOI:10.1007/s00414-020-02399-6.
- Ferreira, M. T.; Coelho, C.; Gama, I. 2019. Application of Forensic Anthropology to non-forensic issues: an experimental taphonomic approach to the study of human body decomposition in aerobic conditions. *Australian Journal of Forensic Sciences*, 51: 149–157. DOI:10.1080/00450618.2017.1329850.
- Gabriel, B. 2019. *Alterações termicamente induzidas: influência da duração da exposição ao calor na colorimetria, morfometria e quimiometria*. Master Dissertation in Forensic Anthropology, University of Coimbra.
- Gonçalves, G.; Vassalo, A.; Mamede, A.; Makhoul, C.; Piga, G.; Cunha, E.; Marques, M.; Batista de Carvalho, L. 2018. Crystal clear: vibrational spectroscopy reveals intrabone, intraskeleton, and interskeleton variation in human bones. *American Journal of Physical Anthropology*, 166(2): 1–17. DOI:10.1002/ajpa.23430.
- Hefner, J. T. 2009. Cranial nonmetric variation and estimating ancestry. *Journal of Forensic Sciences*, 54(5): 985–995. DOI:10.1111/j.1556-4029.2009.01118.x.
- Henderson, J. 1987. Factors determining the state of preservation of human remains. In: Boddington, A.; Garland, A. N.; Janaway, R. C. (eds.). *Death, decay and*

- reconstruction: approaches to archaeology and forensic science*. Manchester, Manchester University Press: 43–54. DOI: 10.1002/ajpa.1330780112.
- Hunt, D. R.; Albanese, J. 2005. History and demographic composition of the Robert J. Terry anatomical collection. *American Journal of Physical Anthropology*, 127 (4): 406–417. DOI:10.1002/ajpa.20135.
- Işcan, M. Y.; Loth, S. R.; Wright, R. K. 1984. Age estimation from the rib by phase analysis: white males. *Journal of Forensic Sciences*, 29(4): 1094–1104. DOI: 10.1520/JFS11776J.
- Işcan, M. Y.; Loth, S. R.; Wright, R. K. 1985. Age estimation from the rib by phase analysis: white females. *Journal of Forensic Sciences*, 30(3): 853–863 (DOI: 10.1520/jfs11776j)
- Jantz, L. M.; Jantz, R. L. 1999. Secular change in long bone length and proportion in the United States, 1800–1970. *American Journal of Physical Anthropology*, 110(1): 57–67. DOI:10.1002/(SICI)1096-8644(199909)110:1<57::AID-AJPA5>3.0.CO;2-1.
- José, A. 2019. *Reconstruir uma identidade: caracterização de uma amostra da Coleção de Esqueletos Não Identificados do Cemitério dos Capuchos*. Master Dissertation in Forensic Anthropology, University of Coimbra.
- Magalhães, B. 2018. *When breathing is a burden: sinonasal variations and diseases affecting the human skull in three Portuguese identified osteological collections (19th-20th centuries)*. Doctoral Dissertation in Biological Anthropology, University of Coimbra.
- Makhoul, C.; Amarante, A.; d'Oliveira Coelho, J.; Navega, D.; Almeida, M.; Parker, S.; Ferreira, M. T.; Viegas, D.; Marques, M.; Batista de Carvalho, L.; Gonçalves, G.; Cunha, E. 2017. Experimental burning and real fire scenarios: are they comparable in terms of chemical anthropology? *La Revue de Médecine Légale*, 8: 187. DOI: 10.1016/j.medleg.2017.10.019.
- Mamede, A.; Vassalo, A.; Piga, G.; Cunha, E.; Parker, S.; Marques, M.; Batista de Carvalho, L.; Gonçalves, D. 2018. Potential of bioapatite hydroxyls for research in archaeological burned bone. *Analytical Chemistry*, 90: 11556–11566. DOI: 10.1021/acs.analchem.8b02868.
- Marques, M.; Gonçalves, D.; Amarante, A.; Makhoul, C.; Parker, S.; Batista de Carvalho, L. 2016. Osteometrics in burned human skeletal remains by neutron and optical vibrational spectroscopy. *The Royal Society of Chemistry*, 6: 68638–68641. DOI: 10.1039/C6RA10594G.
- Mendonça, C. 2000. Estimation of height from the length of long bones in a Portuguese adult population. *American Journal of Physical Anthropology*, 112: 39–48. DOI:10.1002/(SICI)1096-8644(200005)112:1<39::AID-AJPA5>3.0.CO;2-%23.
- Município de Santarém. 2020. *Igreja do Cemitério dos Capuchos*. [Online]. [Santarém], Município de Santarém. [Accessed on 07/13/2020]. Available at: <https://www.cm-santarem.pt/descobrir-santarem/o-que-visitar/item/1196-igreja-do-cemiterio-dos-capuchos>.
- Nascimento, E.; Trábulo, M. 2008. *Cemitérios*,

- ordenamentos e questões jurídicas*, 3rd edition. Coimbra, Almedina.
- Navega, D.; Coelho, C.; Vicente, R.; Ferreira, M. T.; Wasterlain, S.; Cunha, E. 2015. Ancestry estimation with randomized decision trees. *International Journal of Legal Medicine*, 129(5): 1145–1153. DOI:10.1007/s00414-014-1050-9.
- Nikita, E. 2017. *Osteoarchaeology: a guide to the macroscopic study of human skeletal remains*. Amsterdam, Academic Press.
- d'Oliveira Coelho, J.; Curate, F.; Navega, D. 2020. Osteomics: decision support systems for forensic anthropologists. In: Obertová, Z.; Stewart, A.; Cattaneo, C. (eds.). *Statistics and probability in forensic anthropology*. London, Elsevier: 259–273.
- Ortner, D. J. 2003. *Identification of pathological conditions in human skeletal remains*. 2nd edition. San Diego, Academic Press.
- Piga, G.; Baró, M.; Escoval, I.; Gonçalves, D.; Makhoul, C.; Amarante, A.; Malgosa, A.; Enzo, S.; Garroni, S. 2016. A structural approach in the study of bones: fossil and burnt bones at nanosize scale. *Applied Physics A*, 122: 1–14. DOI: 10.1007/s00339-016-0562-1.
- Queiroz, J. 2002. *Os cemitérios do Porto e a arte funerária oitocentista em Portugal. Consolidação da vivência romântica na perpetuação da memória*. Doctoral Dissertation in Art History, University of Porto.
- Rocha, M. A. 1995. Les collections ostéologiques identifiées du Musée Anthropologique de l'Université de Coimbra. *Antropologia Portuguesa*, 13: 7–38.
- Rothschild, B. M.; Rothschild, C. 1995. Comparison of radiologic and gross examination for detection of cancer in defleshed skeletons. *American Journal of Physical Anthropology*, 96(4): 357–363.
- Rougé-Maillart, C.; Vielle, B.; Jousset, N.; Chappard, D.; Telmon, N.; Cunha, E. 2009. Development of a method to estimate skeletal age at death in adults using the acetabulum and the auricular surface on a Portuguese population. *Forensic Science International*, 188: 91–95. DOI: 10.1016/j.forsciint.2009.03.019.
- Schaefer, M.; Black, S.; Scheuer, L. 2009. *Juvenile osteology: a laboratory and field manual*. London, Academic Press.
- Schultz, M. 1997. Microscopic structure of bone. In: Haglund, W. D.; Sorg, M. H. (eds.). *Forensic taphonomy: the postmortem fate of human remains*. Boca Raton, FL, CRC Press: 187–199.
- Tomé, L. 2019. *O primeiro passo para a identificação: caracterização antropológica de uma amostra da Coleção de Esqueletos Não Identificados do Cemitério dos Capuchos*. Master Dissertation in Forensic Anthropology, University of Coimbra.
- Umbelino, C.; Santos, A. L. 2011. Portugal. In: Marquez-Grant, N.; Fibiger, L. (eds.). *The Routledge handbook of archaeological human remains and legislation: an international guide to laws and practice in the excavation and treatment of archaeological human remains*. London, Routledge: 341–352.
- Vassalo, A.; Mamede, A.; Ferreira, M. T.; Cunha, E.; Gonçalves, D. 2019. The G-force awakens: the influence of gravity in bone heat-

induced warping and its implications for the estimation of the pre-burning condition of human remains. *Australian Journal of Forensic Sciences*, 51(2): 201–208. DOI: 10.1080/00450618.2017.1340521.

- Ubelaker, D. H. 1979. *Human skeletal remains: excavation, analysis and interpretation*. Washington, Smithsonian Institution Press.
- Waldron, T. 2009. *Palaeopathology*. Cambridge, Cambridge University Press: 67–167.
- Wasterlain, S. N. 2000. *Morphé. Análise das proporções entre os membros, dimorfismo sexual e estatura de uma amostra da Coleção de Esqueletos Identificados do Museu Antropológico da Universidade de Coimbra*. Master Dissertation in Human Evolution, University of Coimbra.
- Wedel, L.; Galloway, A. 2014. *Broken bones: anthropological analysis of blunt force trauma*. 2nd edition. Springfield, Charles C. Tomas.
- White, T.; Folkens, P. A. 2005. *The human bone manual*. Oxford, Academic Press.

R E C E N S Õ E S

B O O K R E V I E W S

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Antropología. ¿Por qué importa?



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Ingold, Tim. 2020. *Antropología. ¿Por qué importa?* (E. Gómez Parro, Trad.). Madrid, Alianza Editorial. (Obra original publicada em 2018)
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Este breve ensaio, de 145 páginas, do Professor Tim Ingold (Universidade de Aberdeen, cf. <https://www.abdn.ac.uk/socsci/people/profiles/tim.ingold>), apresenta uma importante reflexão sobre o valor e a importância da antropologia nos dias de hoje. O livro foi publicado em inglês, em 2018, e traduzido para espanhol em 2020. É com base nessa tradução que fazemos a seguinte revisão. O livro está estruturado em 5 capítulos que no seu conjunto são uma espécie de antropologia da antropologia, uma defesa e hagiologia da própria antropologia.

O primeiro deles foca a relevância da antropologia como ferramenta social de convivência num mundo de sobreinformação, digitalização e excesso de fluxos informativos. Antropologia como ciência

em constante construção que olha para o mundo com a missão de interpretar ou explicar os costumes dos outros, colocar-nos no lugar do outro, partilhar com os outros, aprender da sua experiência, e ver a diversidade de possibilidades da vida humana. O autor questiona e critica radicalmente o que ele designa por “negócio de ‘produção do conhecimento’” (p.16), defendendo uma antropologia que está menos preocupada com a criação de produtos de conhecimento objetivo do que com a procura de sabedoria. A sabedoria é entendida por ele como o aceitar dos outros na nossa existência, experiência, imaginação, proximidade, afetividade, estudar com as pessoas face ao estudar sobre. Neste sentido, e tomando como metáfora o campo do antropólogo como

laboratório de sabedoria, ele propõe a etnografia como fortaleza metodológica e resultado do exercício antropológico de produção do saber. A etnografia é, também, para ele um compromisso de aprender e uma educação do próprio antropólogo em campo. E, de forma complementar, a antropologia tem, segundo ele, o potencial para educar e transformar as vidas humanas, ao mostrar como vivemos e como podemos viver alternativamente.

O segundo capítulo aborda um dos temas clássicos da antropologia, a semelhança e a diferença. A sua proposta é uma defesa da diversidade cultural num mundo de diferenças onde a vida humana é um movimento do universal ao particular, uma tensão entre convergências e divergências. Para o autor, o uso da ideia de cultura como produto inato pressupõe uma lógica de superioridade que alimenta lógicas eurocêtricas que continuam a olhar para o passado e para o futuro a partir do presente, naturalizando semelhanças e culturalizando diferenças. Ingold contraria estas formas de pensar convencionais e afirma que não é a cultura que separa os indivíduos, antes que essa distinção resulta dos condicionaismos estabelecidos pelas relações e interações entre os indivíduos. Para Ingold, a diferença não separa e divide, porém une todos os seres humanos na diferença. O autor desconsidera interpretações populistas e extremistas da diferença como barreira inultrapassável entre nós e os outros e demarca-se da perspectiva de

confronto identitário de Edmund Leach, para defender a diferença como cimento social e mecanismo relacional. Ingold propõe um novo sentido de comunidade e de identidade relacionais, que conjugue a igualdade de direitos e obrigações com a tolerância pelas diferenças entre cidadãos. Esta proposta tem implicações políticas e converte a antropologia numa ferramenta intelectual importante que pode ser utilizada em debates públicos nas sociedades atuais.

O terceiro capítulo é uma mirada à própria disciplina da Antropologia e às suas divisões internas. Começa por questionar a divisão entre a antropologia sociocultural e a antropologia biológica, que assenta na divisão geral entre ciências naturais e humanidades. Essa fragmentação e inconexão, filha da época da Ilustração, tem como ponto em comum o estudo da evolução humana do ponto de vista anatómico (antropologia biológica), institucional (antropologia sociocultural) e material (arqueologia). Ao longo do capítulo faz uma revisão histórica crítica dos muitos pontos de encontro e de alguns distanciamentos entre as diferentes antropologias. O capítulo é mesmo encerrado, fazendo alusão à perspectiva de muitos autores que, no final do século passado, questionavam a pertinência da antropologia enquanto ciência, dada a aparente crise teórica que atravessava.

O quarto capítulo é um exercício de repensamento de categorias analíticas convencionais, tais como aquelas que

opõem “sociedades tradicionais” a “sociedades modernas”, “sociedades de pequena escala” a “sociedades complexas”. A gênese destas categorias analíticas convencionais foi moldada pelo impacto do paradigma evolucionista nos primórdios da história da antropologia, e Tim Ingold mostra como ao longo do século XX a questão da evolução foi deslocizada para dar lugar a outros enquadramentos analíticos mais preocupados com questões de função, estrutura, significado (o que as pessoas dizem e fazem), modos de produção, modos de adaptação e formas de transação. Na parte final deste capítulo, apresenta a sua tese da complementaridade, segundo a qual o ser humano é um ser social e um organismo biológico, fruto da ontogênese, isto é, um processo de geração do ser e da vida. O ser humano é biossocial, afirma (p. 101), com corpo e mente, e, portanto, não pode haver duas ontologias separadas entre o biológico e o social, e, assim, segundo ele, tem de haver negociação e entendimento para melhor compreender o ser humano.

O capítulo quinto, e último, é uma alavanca da antropologia para o futuro, uma mirada pessoal do que deveria ser a antropologia no futuro, um desejo e uma proposta deste laureado antropólogo. Começa por se queixar da ausência de antropólogos nos debates sobre a sustentabilidade e o habitar do mundo, sendo que o antropólogo questiona de forma diferente esses problemas e, portanto, informa sobre soluções diferentes

e complexas para problemas complexos. Face ao que ele define como poder supremo da economia, a antropologia está subordinada face a outras ciências sociais por estudar a cultura, e reivindica a sua importância face ao poder do mercado, proporcionando contributos inescrutáveis como o de mostrar diferentes possibilidades nas condições de existência vital. Ao contrário de muitas imagens estereotipadas dos antropólogos, tão bem representadas pela famosa vinheta de Gary Larson, o autor propõe uma apologia da antropologia que mude as coisas em prol do benefício dos antropólogos. Como? Reestabelecendo a antropologia como uma disciplina independente e não um aglomerado de subdisciplinas separadas, obtendo um novo acordo entre antropólogos biofísicos e antropólogos socio-culturais, e demonstrando o potencial da antropologia para transformar vidas. Ademais, assinala uma outra aliança entre antropologia, ciência e arte: “Creo que el futuro de la disciplina radica en otra parte, en la convergencia contemporánea de la ciencia y el arte” (p. 113). Justifica esta proposta como uma forma de visibilizar o que não se vê e aumentar a consciência sobre a vida e o ser humano.

Ingold escreveu um livro estimulante e provocador, claramente pensado tanto para curiosos, como para alunos e professores de antropologia. No entanto, esta obra acaba por prender-se nas transições pessoais e históricas do pensamento antropológico e não explica satisfatória-

mente como pode a antropologia realinhar um mundo que parece estar a entrar numa fase de crescentes incertezas e caos social. Entrelaçando a sua própria biografia e percurso científico com os conteúdos teóricos descritivos que marcaram os diferentes momentos da antropologia. Se a antropologia é hoje mais importante que nunca, fica por esclarecer o porquê e o como, ficando o leitor sim com a certeza de que, para Ingold, a antropologia é uma anti-disciplina, que questiona o mundo e os outros, estabelecendo uma conversa que muda as nossas vidas com a capacidade de transformar a vida de acordo com uma ética da atenção aos outros. “Antropologia. ¿Por qué importa?” é, sem dúvida, uma proposta integradora e aberta para repensar a geopolítica da antropologia no campo dos saberes académicos e nas sociedades contemporâneas atuais, mais além de um simples e desgastado corporativismo disciplinar.

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O útil, o fim, e o Antropoceno: Ensaio Crítico sobre os manifestos de Ailton Krenak



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Krenak, Ailton. 2019. *Ideias para adiar o fim do mundo*. São Paulo, Ed. Companhia das Letras.

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Krenak, Ailton. 2020. *A vida não é útil*. São Paulo, Ed. Companhia das Letras.

ISBN: 9788535933697, 128 pp., 29,90R\$

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Proponho uma análise crítica de dois livros importantes do filósofo e ativista indígena e ambientalista brasileiro Ailton Krenak, intitulados *Ideias para adiar o fim do mundo* (2019) e *A vida não é útil* (2020). Estes livros são organizações de pequenos ensaios da sua autoria que nos transportam para um debate crítico sobre a ideia de sustentabilidade, antropoceno, sistema capitalista e ambientalismo, em tempos pré e pós-pandêmicos.

Os efeitos das alterações climáticas no nosso planeta têm vindo a agravar-se progressivamente, tornando impreterível e fundamental o debate e estudo de como nos estamos a relacionar com a natureza e qual é a contribuição da antropologia e das ciências humanas neste cenário de urgência ambiental e climáti-

ca. Para refletir sobre essa realidade, proponho nesta recensão uma discussão do conceito de Antropoceno, neste contexto de pandemia, à luz do pensador Ailton Krenak.

Ailton Krenak é um Indígena Doutor *honoris causa* pela Universidade Federal de Juiz de Fora (UFJF), que atua na causa ambientalista e dos povos da floresta no Brasil, e nos dois livros aqui em análise propõe diversas reflexões que são essenciais para a antropologia e um fazer científico crítico. Ele mostra de maneira enfática e reflexiva que há uma necessidade crescente em mudar de maneira radical a postura da sociedade atual em relação à natureza e ao meio ambiente.

Krenak é conhecido pela sua escrita contínua, fluída e acessível, e, estes dois

livros são um exemplo particularmente eloquente disso mesmo. Os textos de Krenak fogem da rigidez académica por mais profunda que sejam as suas reflexões. Ele escreve de maneira didática para manter a acessibilidade de uma exposição que se dirige a um público mais geral, o que ajuda a explicar o sucesso editorial destes dois livros que já foram traduzidos para várias línguas. Estes livros são particularmente importantes porque oferecem uma boa introdução ao pensamento crítico de Krenak no que diz respeito à crítica do sistema capitalista contemporâneo e à sua relação insustentável da sociedade com a natureza.

Krenak procura nos seus textos apresentar a sua cosmovisão em contraponto às cosmovisões do sistema capitalista contemporâneo e suas tecnologias, metrópoles, cadeias de mercadorias, e formas de conhecimento e exploração do meio ambiente. Ele utiliza uma linguagem irónica para revelar as contradições de um sistema capitalista que é marcado pela exploração dos trabalhadores e pela extração de recursos naturais, mas que cria a ilusão de que todos teremos acesso à riqueza produzida e que o planeta é uma fonte de recursos infinitos.

Ideias para adiar o fim do mundo é composto por três ensaios: o homónimo *ideias para adiar o fim do mundo, do sono e da terra* e a *humanidade que pensamos ser*. Nestes textos, ele traça um pensamento decolonial em que questiona a ideia de sustentabilidade presente no sistema económico ocidental.

No primeiro ensaio, que corresponde a uma palestra proferida na Universidade de Lisboa, em 2017, Krenak aponta um debate importante, de como as principais metrópoles mundiais se apresentam de maneira igual, e de aspecto futurístico. Nas suas palavras, “Os grandes centros, as grandes metrópoles do mundo são uma reprodução uns dos outros.” (Krenak, 2019: 11), enunciando a ideia de não lugares, um conceito desenvolvido pelo antropólogo francês Marc Augé, em que define o não lugar, um espaço que não é nem relacional, nem histórico e nem identitário (Augé, 1994: 73).

Krenak faz uma análise dos centros urbanos como espaços da modernidade e como há uma lógica homogeneizadora nesses lugares. O autor descreve de que maneira essa civilização moderna hegemónica expande a sua área de influência de forma invasiva para toda e qualquer civilização na periferia. Este processo predatório está assente na premissa de que existe uma sociedade evoluída e avançada – a civilização moderna – e outras sociedades que são associadas a um estado inferior e precisam de ser conquistadas, uma ideia de sub-humanidade, que ainda prevalece até hoje.

Krenak utiliza o termo “sub-humanidade” para se referir aos grupos ou núcleos que estão à margem da sociedade hegemónica moderna, ou para utilizar as suas palavras, que estão “à borda do planeta” e que resistem pelo facto de terem uma organicidade coletiva e não

individualista, onde a sua existência não é orientada pelo consumismo. Fazendo uso de um comentário do ex-presidente uruguaio José Mujica, que afirma que na nossa sociedade somos educados para sermos clientes e consumidores, Krenak levanta a seguinte questão: para quê, então, ser cidadão? O autor questiona essa suposta cidadania de consumo, que nos afasta da natureza e nos reduz a meros consumidores. Krenak dialoga aqui com o escritor, xamã, e líder político Yanomami David Kopenawa que tem alertado para os perigos de uma sociedade capitalista que quer que acreditemos que tudo é mercadoria e que tenta reduzir todas as pessoas e coisas ao estatuto de mercadorias.

O autor critica ainda a relação que o Estado brasileiro tem com as sociedades indígenas, e como houve uma falha – mesmo após a constituição de 1988 que garante o direito a terras e à liberdade étnica – do mesmo em garantir a integração e a proteção desses povos. Ele conclui com o argumento de que há uma necessidade de se valorizar o conhecimento tradicional, não apenas como uma chave de análise antropológica, mas como uma forma alternativa de se pensar a relação entre comunidades humanas e o meio ambiente, pensando nele não como um objeto e uma mera fonte de recursos para o crescimento económico, mas como um sujeito com o qual se comunica e se dialoga diariamente e se tem de aprender a viver lado a lado.

Em *A vida não é útil* Krenak torna-se mais enfático em algumas questões, e amplia a descrição da sua cosmovisão da relação entre sociedade e natureza, o que ajuda a tornar mais claro o contraste que ele desenvolve entre o pensamento de povos tradicionais e a percepção predominante da sociedade capitalista contemporânea.

Este segundo livro foi publicado em 2020, já em pleno contexto de pandemia COVID-19, e assume de maneira mais contundente a percepção crítica dos povos indígenas sobre o modo de produção desenfreado do sistema capitalista. “Somos a praga do planeta” afirma Krenak ao falar sobre a humanidade, ou melhor, sobre o sistema capitalista e os seus efeitos ecológicos cada vez mais destrutivos. Krenak entra aqui em diálogo com debates recentes em redor do “Antropoceno,” ou a presente “era dos humanos,” na qual o impacto das atividades humanas é tão significativo que está a criar incertezas ambientais crescentes que colocam em risco a própria continuidade da vida humana no planeta.

Ele traz em seu livro um debate sensível, de como a atual situação pandémica nos forçou a confrontar as nossas fragilidades, e como é insustentável esse modo de produção. Como uma grande ironia da natureza, o vírus que só mata humanos, como pontua Krenak, esse vírus é uma consequência do modo de produção que está a destruir o planeta, e há uma certa urgência em se repensar esse modo de produção.

Há dois conceitos importantes que Krenak aborda neste seu segundo livro que ajudam a compreender o seu pensamento e sua relação com o Antropoceno. Os conceitos de Necrocapitalismo e Necropolítica, o primeiro desenvolvido por Suely Rolnik (2018) e o segundo por Achille Mbembe (2018). É relevante mencionar estes dois conceitos, pois estão presentes de maneira diluída em toda a sua escrita, neste livro em particular, no qual há toda uma discussão sobre vida e morte e a sua relação com o estado e a tecnologia, e se procura problematizar a relação que a sociedade moderna criou com a morte.

Krenak expõe em toda a sua escrita a necessidade de uma experiência sensível anti-sistêmica, trazendo a reflexão e a desconstrução da naturalização do capitalismo e mostrando como o capitalismo cria um cenário ilusório de uma sociedade equilibrada que está na verdade a destruir-se a si mesma e a consumir todo o ecossistema. Isto é o que Rolnik chama de Necrocapitalismo, pois o sistema capitalista se transformou num sistema de predação intensa com capacidades autodestrutivas.

A noção de Necropolítica de Mbembe também está presente na análise de Krenak do sistema capitalista, mas o conceito não é citado diretamente. A noção de Necropolítica sugere que o estado capitalista é um estado que escolhe quem vive e quem morre, e a morte é direcionada aos humanos de “cor”, ou seja tudo o que não é

semelhante a um homem, branco, cristão e europeu, é uma vida descartável.

Para compreender de que maneira a percepção de Krenak contribui para um avanço das ciências humanas, temos de ler nas entrelinhas dos seus escritos. Apesar da fácil compreensão e leitura das suas ideias, um entendimento mais aprofundado requer alguma bagagem acadêmica, bem como uma sensibilidade político-cultural e cosmológica. Krenak como um indígena ativista, tem sua percepção social, voltada para a melhoria das condições de vida dos povos tradicionais.

Vislumbro nos seus escritos um tema central: o de quebrar a percepção mercadológica que o sistema capitalista deu às sociedades contemporâneas, em que o sentido da existência dos indivíduos é meramente o de consumir. É necessário compreender as dimensões políticas desta proposta. Krenak está a dizer que é preciso ouvir os povos que estão “à borda do planeta”. Estas sociedades, que se mantêm ligadas às suas terras e tradições de coletividade e que recusam ceder a um individualismo e consumismo alienantes, é que entenderam qual o caminho a seguir para se conseguir adiar o fim do mundo.

Referências bibliográficas

- Augé, M. 1994. *Não Lugares: introdução a uma antropologia da supermodernidade*. Campinas, Papirus.
- Mbembe, A. 2018. *Necropolítica: biopoder, soberania, estado de exceção, política da morte*. (R. Santini, Trad.). São Paulo, N-1 Edições.

Rolnik, S. 2018. *Esferas da insurreição: notas para uma vida não cafetinada*. São Paulo, N-1 Edições.

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Negotiating structural vulnerability in cancer control



Armin, J.; Burke, N. J.; Eichelberger, L. [eds.] 2019. *Negotiating structural vulnerability in cancer control*. Albuquerque, University of New Mexico Press. ISBN: 978-0-8263-6031-1, 320 pp., \$ 39.95. DOI: https://doi.org/10.14195/2182-7982_38_8

Negotiating structural vulnerability in cancer control, editado por Julie Armin, Nancy J. Burke e Laura Eichelberger, aborda a vulnerabilidade sentida por doentes oncológicos, fruto de desigualdades estruturais. Para tal, utilizam diversas histórias etnográficas de doentes oncológicos de forma a não só explorar discursos relacionados com o conceito de vulnerabilidade estrutural, mas também auxiliar os trabalhos antropológicos que visem a prevenção e o controlo do cancro. Temáticas relacionadas com o cancro e/ou vulnerabilidade têm sido abordadas por autores como Livingston (2012), Sontag (2007) e Farmer (2005). Contudo, este é o primeiro livro que reúne sucintamente estas temáticas, analisando os inúmeros fatores e motivos, que se estendem para

lá das razões biomédicas, que deixam os doentes oncológicos numa posição mais vulnerável.

O principal conceito a ser explorado – vulnerabilidade – é definido pelos editores como uma posição na hierarquia social que impõe sofrimento físico e emocional a grupos/populações específicos e que resulta da exploração económica e discriminação baseada no género/sexo, na raça e na cultura (Armin, 2019: 2). Com base nesta definição os autores vão analisar fatores, como as desigualdades económicas e sociais, a invisibilidade social, as diferenças de género, a disponibilidade e as desigualdades no acesso a serviços de saúde e o impacto histórico do colonialismo. Todos os capítulos abordam estes fatores de forma

diferente, contudo, muitos deles, interligam-se, salientando as camadas de vulnerabilidade sentidas por estas pessoas.

A primeira parte – “Negotiating Vulnerability” – analisa a vulnerabilidade estrutural em relação à exclusão/benefícios dos pacientes, às obrigações familiares e aos discursos de culpabilização pela doença. A primeira história a ser contada, da autoria de Carolyn Sargent e Peter Benson, reflete sobre a situação precária de doentes oncológicos com estatuto migrante em França. A sua invisibilidade sociopolítica leva-os a lutar pelo acesso a serviços médicos e sociais essenciais para o seu tratamento.

Por sua vez, Julie Armin aborda a vulnerabilidade associada ao género. Para a autora, as mulheres de classe média/baixa que sofrem de cancro, estão muitas vezes sujeitas a uma invisibilidade social e económica, fruto do tipo de profissão ou trabalho desempenhado (ex: domésticas ou em situação de desemprego). Através de uma análise ao quotidiano de uma mulher numa posição economicamente mais precária, a autora sublinha as negociações sociais essenciais para aceder a um tratamento eficaz e superar os constrangimentos económicos.

No capítulo seguinte, Susan Shaw aprofunda esta temática ao analisar a vulnerabilidade sentida por doentes pertencentes a minorias nos Estados Unidos da América. A autora investiga a problemática da vulnerabilidade económica fruto do neoliberalismo que deixa

doentes oncológicos num risco acrescido devido aos custos de exames e tratamentos, para os quais é essencial o acesso a um seguro de saúde. Além do mais, acresce a estigmatização e problematização feita pelos profissionais de saúde a estes pacientes, que os leva a adiar a procura de ajuda.

Simon Craddock Lee escreve o último capítulo desta primeira parte. O autor apresenta as histórias de pacientes com cancro do pulmão em Dallas, Texas. Lee discute a problematização do conceito de vulnerabilidade estrutural, que pode levar a uma falsa ideia de inevitabilidade, defendendo que este conceito não reflete as respostas e resistência que os pacientes dão no seu quotidiano.

A segunda parte – “Mapping institutions, Interventions, and Inequalities” – examina o papel das instituições, dos desafios sentidos pelos doentes e das narrativas associadas ao cancro. Desta forma, Maria Stalford começa por revelar os desafios impostos pelas desigualdades territoriais devido à centralização dos serviços de saúde em grandes cidades que dificulta o acesso a serviços e a um tratamento adequado a doentes das zonas rurais. As desigualdades são abordadas através de várias perspetivas no capítulo seguinte, cabendo a Nancy J. Burkediscorrer sobre as dificuldades no acesso a tratamento devido a questões económicas. Na tentativa de procurar uma terapêutica que possa garantir a sua sobrevivência, alguns doentes

oncológicos ingressam em ensaios clínicos. Esta decisão vem expor um debate aceso entre ética, ciência e lucro, uma vez que estas experiências podem ser a salvação para um paciente sem recursos, mas também constitui uma forma do sistema se aproveitar da sua própria vulnerabilidade.

O capítulo seguinte, da autoria de Karen Dyer, faz uma análise ao impacto do colonialismo nas relações socioeconómicas em Porto Rico. A dependência económica deste país relativamente aos Estados Unidos da América traduz-se em implicações para o sistema de saúde e para o tratamento de doentes com cancro. A vulnerabilidade é aqui abordada através das sucessivas privatizações e falta de investimento que gera desigualdades sociais no acesso a tratamento.

Laura Eichelberger discorre ainda sobre as narrativas que levam à invisibilidade do cancro em algumas populações, especialmente as não ocidentais. Estas narrativas, fruto de teorias epidemiológicas, assumem que o aumento da incidência de cancro, e a sua origem, está diretamente relacionado com a modernidade e a globalização. Estes discursos apresentam efeitos práticos, uma vez que inviabilizam o investimento, as intervenções, os programas e as estratégias que visem populações não-ocidentais, por vezes não industrializadas e com altos níveis de pobreza e desigualdades socioeconómicas.

O último capítulo deste livro, da autoria de James Quesada, avalia uma sé-

rie de fatores sociais e económicos que impossibilitam o tratamento adequado do paciente mas que são ignorados pela biomedicina. A sobrevivência dos doentes não depende apenas da disponibilidade de tratamento mas também do acesso ao mesmo, do seu contexto socioeconómico e mesmo de uma rede de suporte. Estes fatores vão muito além das simples soluções biomédicas e podem influenciar positiva ou negativamente o processo terapêutico.

Os autores esforçaram-se por criar um livro que entrelaça de forma explícita os principais conceitos explorados – vulnerabilidade estrutural e cancro. Desta forma, todos os capítulos exploram vários fatores que influenciam e contribuem para a problemática da vulnerabilidade estrutural. Contudo, a maioria das análises é referente a contextos no Norte Global. Uma análise e exemplificação de outras latitudes poderia contribuir para uma representação mais sólida e apresentar ao leitor uma imagem global das causas e efeitos, não só da vulnerabilidade estrutural, como também da violência estrutural, conceito discutido no primeiro capítulo mas não aprofundado de forma eficaz. Apesar disso, este livro mostra-se essencial para qualquer estudante que pretenda aprender mais sobre os aspetos sociais relacionados com doenças oncológicas, especialmente no âmbito da Antropologia e Sociologia.

Referências bibliográficas

Farmer, P.; Sen, M. 2005. *Pathologies of power: health, human rights, and the new war on the poor*. Berkeley, University of California Press.

114

Livingston, J. 2012. *Improvising medicine: an African oncology ward in an emerging cancer epidemic*. Durham, Duke University Press.

Sontag, S. 2007. Doença como metáfora / AIDS e suas metáforas. São Paulo, Companhia das Letras.

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Fonseca, F. T. 2007. The social and cultural roles of the University of Coimbra (1537-1820): some considerations. *e-Journal of Portuguese History* [Online], 5(1). [Consultado em 22-3-2010]. Disponível em: http://www.brown.edu/Departments/Portuguese_Brazilian_Studies/ejph/html/issue9/pdf/ffonseca.pdf.

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McElroy, A.; Townsend, P. K. 2004. *Medical anthropology in ecological perspective*. 4th edition. Boulder, Westview Press.

Collective work

Swedlund, A. C.; Herring, D. A. (eds.). 2003. *Human biologists in the archives: demography, health, nutrition and genetics in historical populations*. Cambridge, Cambridge University Press.

Chapter in book

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Article in conference proceedings

Bremón, M. R. 2009. La antropología física e los museos. In: Cerdá, M. P.; Garcia-Prósper, E. (eds.). *Investigaciones histórico-médicas sobre salud y enfermedad en el pasado. Actas del IX*

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Journal article

Fagundes, N. J. R.; Bonatto, S. L.; Callegari-Jacques, S. M.; Salzano, F. M. 2002. Genetic, geographic, and linguistic variation among South American Indians: possible sex influence. *American Journal of Physical Anthropology*, 117(1): 68-78.

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American Anthropological Association. 2009. *AAA Style guide 2009*. [Online]. Arlington, VA, American Anthropological Association. [Accessed in 6-10-2010]. Available at: <http://www.aaanet.org/publications/guidelines.cfm>.

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