



Austerity and the embodiment of neoliberalism as ill-health: Towards a theory of biological sub-citizenship



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ABSTRACT

This article charts the diverse pathways through which austerity and other policy shifts associated with neoliberalism have come to be embodied globally in ill-health. It combines a review of research on these processes of embodiment with the development of a theory of the resulting forms of biological sub-citizenship. This theory builds on other studies that have already sought to complement and complicate the concept of biological citizenship with attention to the globally uneven experience and embodiment of bioinequalities. Focused on the unevenly embodied sequelae of austerity, the preceding theorization of biological sub-citizenship is developed in three stages of review and conceptualization: 1) *Biological sub-citizenship through exclusion and conditionalization*; 2) *Biological sub-citizenship through extraction and exploitation*; and 3) *Biological sub-citizenship through financialized experimentation*. In conclusion the paper argues that the analysis of biological sub-citizenship needs to remain open-ended and relational in order to contribute to socially-searching work on the social determinants of health.

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1. Introduction

Austerity, meaning severe restraint, is also now a common name globally for neoliberal policies of public-service cut-backs and pro-market discipline. It has long had embodied implications, originally coming from the Greek word *austeros* describing a bitter taste that makes the tongue dry. Shifting from its etymology to its epidemiology in Greece today, the impact of the harsh budget-cutting austerity imposed by the country's European creditors has led from bitter tastes and dried mouths to a whole set of much more damaging embodied impacts. In 2014 rates of HIV infection, malaria, stillbirths and suicide were all reported as rising, while access to medicines, clinics, and mental health services was falling fast (Kentikelenis et al., 2014). Then, in 2015, symptomatic snapshots from the beaches of Greece revealed how the government was left without resources to cope with the sudden influx of refugees, creating a void in which the curtailments of care in the age of austerity became all the more pronounced. The lack of medicines for refugees reflected wider cutbacks in the health system caused by crushing debt discipline. Adding insulting assertions of privilege to the injury, British tourists said that they would choose other destinations if the authorities failed to get rid of the refugees. And,

meanwhile, well-meaning volunteers went around wearing stethoscopes without any regulatory oversight, offering everything from acupuncture to psychological counseling to desperate people climbing out of life-rafts.

The starting point for this article is that the developments in Greece hold some more general lessons about *austeros* turned neoliberal austerity turned embodied ill-health. They include lessons about how the political-economic violence of austerity is commonly co-determined by other kinds of violence, such as the violence of the war in Syria; about how austerity leads to radically unequal health risks and health risk management options; and about how, as the following pages further seek to argue, austerity's damaging embodied outcomes also thereby demand a theory of biological sub-citizenship. The theory of biological sub-citizenship that is offered here in response highlights how ill-health embodies changing conditions of political-economic subordination. The 'sub' in sub-citizenship is used thus to elucidate power relations and processes of subordination that simple binary accounts of citizenship and its others tend to foreclose. Instead, attention to the power relations and processes producing *sub*-citizenship opens up questions about differential degrees and dynamics of health rights disenfranchisement, their various incarnations in adverse incorporation as well as exclusion, and their uneven impacts on actual health outcomes. Moreover, it is further argued here that articulating these analytical questions about disenfranchisement in

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relation to austerity and neoliberalism can also thereby contribute to interdisciplinary efforts to complement and complicate the influential theory of biological citizenship advanced in 2005 by Nicolas Rose and Carlos Novas (Rose and Novas, 2005).

Focused on new norms of active health management by individuals and patient groups using advances in biomedicine, Rose and Novas suggested that biological citizenship in the 21st century is also characterized by new post-national possibilities for forging community or 'biosociality' beyond the borders of nation-states. Yet now, over a decade later, the 'political economy of hope' that they thereby linked to biological citizenship has become eclipsed for many people around the world by the political economy of austerity. Like holiday beaches turned transnational disaster zones, this has led to what political philosophers reflecting on the Greek situation have characterized as a border-crossing biosocial embodiment of dispossession (Butler and Athanasiou, 2013). In response, austerity still has its hopeful adherents who assert upbeat arguments about market solutions amidst the economic devastation (Konings, 2016). Indeed, as is explored further here, some revisionists amongst their ranks even connect their faith in the redemptive powers of market forces to financialized visions of expanding access to biomedicine. However, as health researchers have shown in relation to austerity across Europe after the 2008 financial crisis (De Vogli et al., 2013; Labonté and Schrecker, 2016; Schrecker, 2016; Stuckler and Basu, 2013), as well as for many older rounds of structural adjustment across the global south and north (Fort et al., 2004; Farmer, 2004; Keshavjee, 2014; Kim et al., 2000; Mooney, 2012; Rowden, 2009), the embodied experience of austerity repeatedly leads from market discipline to widespread morbidity and mortality. Work to develop a concept of *biological sub-citizenship* is useful precisely because it provides a relational way of theorizing how such embodied outcomes of austerity actively prevent people from becoming fully enfranchised biological citizens. It thereby allows us to re-evaluate ideas about enfranchisement into biological citizenship in relation to dynamics producing *differentials of disenfranchisement*.

As a starting point for conceptualizing biological sub-citizenship it seems vital to elaborate in much more detail two key points already acknowledged by Rose and Novas that "not all have equal citizenship in this new biological age" (Rose and Novas, 2005: 440); and that the "political economy of hope often takes place under conditions of suffering, privation and inequity" (Rose and Novas, 2005: 452). Such inequalities and conditions restrict access by much of the world's population to biomedical innovation, and they have been notably heightened by austerity-induced cutbacks in public medical services and the high costs created by user fees, privatized biomedicine and neoliberal patent protections. Building on such observations, the first section of review and conceptualization offered below is focused on *biological sub-citizenship through exclusion and conditionalization*. More than just addressing the obstacles blocking and postponing personal investment in new biomedical therapies such as pharmacogenetics, this section seeks to show that a theory of biological sub-citizenship must also address the vast problems of premature death and ill-health that emerge more widely as embodied outcomes of implementing and experiencing neoliberalism as austerity. Health service cuts, user fees and privatization plans are the most direct examples of austerity in this sense, and their exclusionary effects all have embodied outcomes. But in the aftermath of austerity, or in its threatening shadow, wider processes of economic neoliberalization, policy neoliberalization, and socio-cultural neoliberalization all also demand attention for the ways in which they conditionalize and thereby co-constitute biological sub-citizenship.

Going still further beyond concepts of unequal incorporation into biological citizenship, the second main section that follows

explores the biological sub-citizenship embodied in experiences of biovalue extraction and exploitation that frequently follow in the aftermath of austerity. Due to the global political-economic interdependencies involved, these forms of biological sub-citizenship cannot simply be interpreted as a form of exclusion from regimes of biological enfranchisement. Instead, thanks to the exploitative interdependencies of organ and tissue trading, outsourced and offshored drug trials, and health worker brain drain, the biological citizenship of people in more privileged circumstances has become very directly dependent globally on the biological sub-citizenship of others. By highlighting these connections of dispossession and biological disenfranchisement, this article's second stage of review and conceptualization thereby outlines the emergence of *biological sub-citizenship through extraction and exploitation*.

Finally, in the third stage of the article, the focus turns towards today's newly optimistic attempts to expand global health through initiatives that are commonly imagined in terms of investing in spaces of deprivation and delivering biotechnology to the excluded (Mitchell and Sparke, 2016). Even as it compensates for exclusion and conditionalization, this work remains overshadowed by the financialized-thinking associated with the political economy of austerity because it also involves a whole set of economic calculations about scarcity, productivity, cost-effectiveness and return on investment to set priorities for global health intervention. These calculations lead to what Rose has recently analyzed with Ayo Wahlberg as a global 'governmentalization of living' in which global health investment priorities are shaped by "their transformation into the language of numbers and their implications for economic productivity" (Wahlberg and Rose, 2015: 86). As a result, real resources are invested that save lives, but so many places and political-economic pathologies are left unaddressed, and so many health systems are left undermined by austerity, that too many people find themselves un-enfranchised or only partially and fleetingly enfranchised by the experiments in targeted investment. In the terms of the title of this article's final stage of review and conceptualization, this approach leads thus to *biological sub-citizenship through financialized experimentation*.

Together with the exclusionary and exploitative formations of biological sub-citizenship explored in the first two sections, the financialized formation of biological sub-citizens left incompletely enfranchised by the cost-effectiveness calculus of global health represents an ongoing failure to honor the biomedical oath and ethics of first doing no harm. In response, the concept of biological sub-citizenship helps to bring into focus the processes producing such harm and all the divergent differentials of disenfranchisement from global health rights and personal biological citizenship. After an initial literature review of research that has already suggested a method for bringing such biological sub-citizenship into view, this is what the rest of the article seeks to elaborate.

2. Bioinequality research as a method for studying sub-citizenship

Variouly complementing and complicating the account offered by Rose and Novas, the extant literatures on biological citizenship have already turned biocitizenship into a kind of watchword that brings into focus diverse relations of subordination and experiences of bioinequality (Cooter, 2008). These studies are both heterogeneous in their empirical foci and heterodox in terms of the disciplinary concerns and modes of explanation. They include ethnographies of biological citizenship articulated in terms of unequal claims on both bodily damage (Petryna, 2002) and pharmaceutical therapies (Biehl, 2007; Nguyen, 2010); geographies of biological citizenship defined in terms of biosecurity (Fall 2014; Mansfield, 2012), brain science (Pykett, 2016), lethal exclusion

(Braun, 2007; Craddock, 2007), and adverse incorporation (Sparke, 2013); science studies of how the corporate capture of biovalue makes it more likely for poor people in the global south to experience biotechnology as the exploited experimental subjects of biocapital rather than as enfranchised citizen-consumers of biomedical innovation (Cooper, 2008; Petryna, 2007; Rajan, 2006); and migration studies of everything from the genetic testing of asylum seekers (Dove, 2013; Helén, 2014; Heinemann and Lemke, 2014; Ticktin, 2011), to biometrics-based security schemes (Amoore, 2006; Kaufman, 2016; Sparke, 2006), to the food and health security problems facing migrants displaced by dispossession (Carney, 2015).

Most of these accounts of biological citizenship tend to counterpoint Rose and Novas's hopeful depiction of choice-filled biosociality with concerns for embodied experiences of inequality, or what Didier Fassin usefully refers to as 'bioinequality' (Fassin, 2009). In so doing they offer a methodological opening for connecting analyses of biopolitics that have been inspired by the work of Michel Foucault with other critical theories about the political-economic and social processes that systematically create inequality. It is true that empirical concerns with embodied inequalities cannot be quickly reconciled with an account of biopolitics that only follows Foucault's focus on the normalization and regulation of populations – even if Foucault's own interest in austerity as it related to sexuality anticipated a concern with embodiment (Bevis et al., 1989). Amongst other problems, there is a very real danger of ignoring all the many ways in which the neoliberal responsabilization of individuals as choice-concerned consumers of biomedicine serves directly to disempower, damage or alienate others, leaving many feeling shame and guilt as well as disappointed hopes about their personal health rather than self-invested empowerment (Eliaison, 2015; Mansfield, 2012). Nevertheless, as Fassin underlines alongside his own account of "Foucault's indifference with regard to inequalities" (Fassin, 2009: 53), another reading of Foucault and another politics of life is possible if we pay attention to the ways in which bioinequalities also structure biopolitics such as to make some lives matter much less than others, even, and, indeed, often to the point of death. It is these systematic forms of subordination and the resulting forms of differential disenfranchisement that the more critical literatures on biological citizenship have brought into view. Some of them point to exceptional spaces of exclusion against which enfranchisement into full biological citizenship is defined (Braun, 2007). But more generally these critical studies of bioinequalities point to sliding scales of subordination with various degrees of disenfranchisement. It is these diverse and differential necropolitical divergences away from biopolitical empowerment that the concept of biological sub-citizenship helps to both name and nuance. As the following sections seek to show in more detail, the naming helps in gathering together and describing patterns of systematic subordination that create bioinequalities across a wide range of political, economic, social and cultural fields. More than this, it also offers an opportunity for nuancing simplistic, dualistic formulations of necropolitics as just the bare-life opposite of biopolitics by highlighting that much more than just rejection is involved, and that various dynamics and degrees of disenfranchisement are the embodied outcome. It is to detailing these dynamics of differential disenfranchisement from biological citizenship that we now turn.

3. Biological sub-citizenship through exclusion and conditionalization

We need first to examine how disenfranchisement from biological citizenship has occurred globally through processes of austerity-driven exclusion and conditionalization, processes that

have come together systematically and often sequentially to co-produce different degrees of sub-citizenship in different moments of neoliberalization.

Exclusion remains a useful term to describe the direct curtailment of access to health services by austerity. It has been a common outcome connecting older rounds of World Bank- and IMF-authored structural adjustment programs (SAPs), to the subsequent Poverty Reduction Strategy Papers (PRSPs) in which developing countries authored their own plans for austerity at the behest of the World Bank and IMF, to the more recent imposition of austerity on Europe by European governments and their creditors. Connecting the dots between austerity, health service cutbacks and the resulting exclusions from biological enfranchisement, a whole series of books have further underlined the deadly and damaging consequences with titles such as *Dying for Growth, Sickness and Wealth*, and, most recently, in Europe, *The Body Economic: Why Austerity Kills* (Kim et al., 2000; Fort et al., 2004; Stuckler and Basu, 2013). These studies systematically show how efforts to restore business confidence and promote pro-market growth by cutting the costs of public services tend also to make poorer populations vulnerable to disease, disability and premature death. Adapting the acronym for structural adjustment programs, this involves what Steve Gloyd calls 'SAPping the poor' (Gloyd, 2004), a process through which already overburdened health systems for poor populations are sapped of all resources. The results of such sapping through structural adjustment are felt in turn as what Paul Farmer calls 'structural violence' on the bodies of the poor (Farmer, 2004: 315).

For Farmer the embodied stricturing effects of structural adjustment are understood as being experienced at the intersection of many other forms of structural violence, including those of patriarchy, racism and the legacies of colonialism. Austerity is not assumed to act alone at all. But he and his colleagues also make a strong case that the embodied impacts of structural adjustment cutbacks, privatizations and user fees, as well as austerity-inspired ideas about cost-effectiveness in global health, have diminished life in very tangible ways in places as varied as Haiti, Peru, and the former Soviet Union (Farmer et al., 2006), thereby also both derailing the hopes of 'Health for All' famously articulated in the Alma Ata declaration of 1978 (Farmer et al., 2013), and, ironically but devastatingly disenfranchising people of biological citizenship in the post-Soviet countries and communities of central Asia close to Alma Ata itself (Keshavjee, 2014). The Alma Ata vision of expanding access to basic health services and enfranchising citizens globally with a basic set of health rights had rested on commitments by national governments to invest in systems of universal primary health care. It was in turn precisely such commitments that were effectively undermined by the austerity imposed by structural adjustment (Rowden, 2009). Rowden's analysis, and that of many others, explains that the causal relations connecting such austerity orthodoxy to ill-health were not just about 'deadly ideas', involving all sorts of conditionalizing processes (such as pay ceilings for health workers) and varied contingent conditions (such as civil war, NGO-ization and the influences of religion) as well as outright exclusion from health services (Ooms and Schrecker, 2005; Pfeiffer and Chapman, 2010). This is where we can start to see how the exclusionary production of biological sub-citizenship has been closely connected to more indirect processes of conditionalization.

Exploring the aftermath of structural adjustment conditionalities, a long list of studies have now traced many mediating connections between the implementation of austerity and increased morbidity and mortality. Conditionalization in this sense goes from describing the conditions set for debt rescheduling to being about the much wider social conditions for everyday life created as a result. Some of the main forms of conditionalization that have

thereby been traced include: the impact of increasing in-country inequality in the aftermath of austerity and pro-market reforms (Hammonds and Ooms, 2004); the co-production of conditions of social unrest, *coups d'état*, and drug wars as well as free trade deals (Kim et al., 2000); the connections between conditionality and the vulnerable conditions of women and children (De Vogli and Birbeck, 2005); the empty pocket-book conditions that turn the implementation of user fees and charges for medicine back into experiences of exclusion from care (Foley, 2009; Keshavjee, 2014); and the compensating post-conditionality NGO-ization and fragmentation of health systems (Pfeiffer, 2003) – the last affect being an outcome we return to below in relation to global health experimentation.

The health sequelae of structural adjustment in many ways prefigured more global forms of neoliberalization that have since come to overshadow the health of the whole world amid the market-conforming pressures of market-led globalization (Sparke, 2013). Reflecting on these trends as increasingly global determinants of health, it is now worth unpacking further three dominant processes of neoliberalization – i) economic, ii) policy, and iii) socio-cultural – and their affects in conditionalizing and thereby constituting biological sub-citizenship.

Economic neoliberalization has itself had damaging health outcomes through a number of sub-processes. First there are the downward harmonization effects that critics associate with the ‘race to the bottom’ unleashed by global trade liberalization. Advocates of neoliberalism prefer to see these effects as competition-based efficiencies, and associate them ultimately with greater consumer welfare. But by conditionalizing companies to move to low cost and low regulation locations, and by conditionalizing states to compete to keep employers by lowering their taxes and standards, these same competitive economic processes lead to biological sub-citizenship insofar as they undermine health and safety at work protections, undermine other environmental and public health protections, and reduce the tax receipts that can pay for public health services (Labonté and Schrecker, 2007; Labonté et al., 2009).

Second there are the instability and inequality affects created by the increasing financialization of the global economy, including the extreme volatility of 24/7 trading and the impact of financial ‘contagion’ from market sell-offs across borders, currencies and trading platforms. The resulting shocks to particular countries, their currencies and their bond yields can quickly impose a savage form of market discipline on public finances, making it extremely challenging for governments to justify long term public investments in public health and other social determinants of health such as housing, education and community development (Benatar et al., 2011).

Third there are all the ways in which the economic liberalization enforced through trade deals have expanded processes of privatization and monopolization. Through mechanisms such as the WTO's Trade Related Intellectual Property protections (TRIPs), this kind of economic conditionalization leads very directly to biological sub-citizenship insofar as the high costs created by the monopolies made possible by global patent protections make many life-saving drugs, diagnostic tools and other medical innovations completely inaccessible to poor people and publicly-funded health systems (Craddock, 2007; Heywood, 2002). And despite many critiques of the resulting forms of disenfranchisement, and even despite the 2001 Doha Declaration and other declarations that developing countries ought to be able to opt out from the WTO's enforcement of patent monopolies, the problems persist amidst the intensifying economic neoliberalization that trade negotiators prefer to call policy harmonization (Owen, 2014).

Policy neoliberalization has in turn emerged as one of the net

impacts of the pressures from downward harmonization, financialization and monopolization, all of which have come together with other ideational forces to shrink policy-making space. This was a major conclusion of the WHO's Commission on the Social Determinants of Health (WHO, 2008), and many of the researchers involved continue to highlight how the curtailment of policy space further curtails the ability of governments to protect citizens from poor health outcomes (Koivusalo et al., 2009). Again the WTO provides many telling examples due to how signatory countries to WTO rules have effectively allowed domestic legislation protecting health and the environment to be challenged by corporations and other countries with lower standards. Bans on carcinogenic pesticides and GMOs, controls on pollution, and rules about vehicle safety checks have all been targeted for removal and reduction in this way by trade lawyers arguing that they constitute non-tariff barriers to trade (Wallach and Woodall, 2004).

When concerns about policy straitjacketing and the undermining of health rights are raised, however, all of the ideational orthodoxy around austerity and neoliberalism conspires against efforts to articulate policy alternatives. Multiple overlapping explanations have been advanced about how this ideational orthodoxy has been established, including the success of global business class efforts to reassert influence over unions and welfare states (Harvey, 2005); their investment in pro-market think-tanks and intellectual work (Peck, 2010); and their uncanny ability to turn economic crises into opportunities for further expanding and entrenching market rule (Mirowski, 2014). Some suggest the resulting orthodoxy is a form of institutional capture by dangerous ideas (Blyth, 2013), while others argue it is much more a matter of faith in market redemption (Konings, 2016). But whether it is because of bad ideas or blind faith or a more messy mix of the two, neoliberal elites have repeatedly failed to deliver on their sanguine pronouncements that ‘wealthier is healthier’ (Pritchett and Summers, 1996). Instead, neoliberal orthodoxy in policy-making circles has widely undermined health citizenship by undercutting support for public health services (Navarro, 2007). It has contributed to the market-make-over of more collective health systems with a new emphasis on individualizing and consumerist ideals (Zhang and Navarro, 2014). And in a similar way, it has also infiltrated the world of global health, framing out alternatives to neoliberalization (Rushton and Williams, 2012), and bolstering the case for policies like user fees in ways that create biological sub-citizenship across a wide variety of contexts (Keshavjee, 2014).

Even in rich country contexts, policy neoliberalization continues to curtail health rights and healthy living by conditioning the ability of policy-makers to imagine alternatives and counter-measures to the damage done by market forces (Schrecker, 2016). In Europe it has curtailed access to biological citizenship in one of the few parts of the world where it was expanding on a more collective and inclusive basis before the financial crisis of 2008 (Schrecker and Bamba, 2015). The imposition of deep austerity as the only option for Greece has led to a steep decline in public health expenditure of 24% (WHO-Europe, 2016: 14), it has worsened unemployment and worker insecurity (Labonté and Schrecker, 2016), and its wider association with neoliberal policy conditionalization has led simultaneously to a very significant rise in unmet health needs across the EU, with 1.5 million people directly disenfranchised, and possibly as many as 7.3 million Europeans being deprived of what they could have expected in terms of healthcare enfranchisement before the crisis (Reeves et al., 2015).

Socio-cultural neoliberalization in turn includes much wider patterns of deprivation and demonization associated with widespread increases in socio-economic inequality. Often studied in relation to metrics of inequality, the resulting ill-health affects are one of the most widely analyzed concerns of epidemiological

research into the social determinants of health (e.g. Kawachi, 1997; Marmot and Wilkinson, 2006). Summarizing much of this work for a global audience in 2008, the authors of the WHO Commission declared that “social injustice is killing people on a grand scale” (WHO, 2008: 26). This report highlighted how more than just economic inequality is involved. Racial, gendered, and geographical injustices all also intersect too in embodied experiences of ill-health. But what the WHO commissioners also underlined is that countries with more solidaristic concerns for fellow citizens do a better job of biologically enfranchising people with economic investments in social determinants of health such as housing, education and care services. Eschewing such investments, less redistributive societies such as the United States tend to have worse health outcomes, and thus on average lower average life expectancy for the population as a whole (Wilkinson and Pickett, 2009). Thus even as life expectancy continues to increase globally, more unequal societies with more neoliberal socio-cultural norms and privatized health services are creating increasing numbers of biological sub-citizens at the same time (Maskileyson, 2014). The US in particular is falling behind (Kulkarni et al., 2011). Lower incomes increasingly predict lower life expectancy in the country (Chetty et al., 2016), and one of more recent manifestations of the multiple forms of sub-citizenship involved has included remarkable data pointing to rising death rates due to suicide, alcoholism and drug overdoses among poor white Americans (Case and Deaton, 2015).

Notwithstanding all the social determinants of health involved in creating these kinds of biological sub-citizenship, there is a tendency in more neoliberal societies to focus only on individual behaviors as an explanation. This can quickly turn in socio-cultural discourse into a way of blaming the victims and obscuring the more complex causal pathways in which poverty, oppression, dangerous behavior, and embodied experiences of biological sub-citizenship all intertwine. It is also why scholars are now arguing for analyses of the ‘double burden of neoliberalism’ (Glasgow and Schrecker, 2015): a double burden which, a bit like the double burden of acute and chronic disease, compounds the injuries of inequality by successfully indoctrinating the poor that it is their own fault that they are biological sub-citizens (Carney, 2015; Peacock et al., 2014).

4. Biological sub-citizenship through extraction and exploitation

The ways in which vulnerable populations are enlisted into forms of self-blame connects to more material forms of adverse incorporation that afflict societies made vulnerable by austerity to market-led processes of extraction and exploitation. At least three areas of sub-citizenship subordination can be identified in this regard: those of i) health workforce migration; ii) global organ trading; and iii) offshore drug testing. In each case it is possible to show how the practices of micro body-counting associated with personalized biological citizenship – counting one’s cholesterol, blood sugar, or CD4 numbers, for example – are only useful to more privileged individuals insofar as their ability to respond to the resulting risk ratios is supported by health workers, organs and medicines derived from less privileged parts of the world where body-counts tend instead to continue only at the macro level of population estimates of excess mortality and morbidity.

Health workforce migration from the global south to wealthier countries such as the US and UK has been continuing almost in parallel with the rise and cross-border expansion of the possibilities for biological citizenship outlined by Rose and Novas (Hagopian et al., 2005). The resulting loss of trained nurses and doctors from poorer countries to serve the needs of more enfranchised biological citizens in the hospitals, clinics and care homes of the world’s wealthier communities is meanwhile clearly

constitutive of biological sub-citizenship in the places left behind. Poor countries that spend already-limited health budgets training health workers are left without the staff they need to provide basic health services (Serour, 2009). This has been an especially devastating loss for the 57 austerity-bound countries that the WHO workforce alliance listed as already suffering from critical shortages (WHO-Europe, 2016), and the resulting forms of brain-drain have been critiqued therefore as a ‘great brain robbery’ (Patel, 2003), and as an international crime against humanity (Mills, 2008). These critiques noted, it should be remembered that many developing countries and training institutions actively encourage these ‘fatal flows’ for a variety of reasons running from pure profit motives to the allure of remittances to hopes about so-called brain circulation and the eventual return of health workers with global experience (Walton-Roberts, 2015). For the same reason, it is again important to stress the integrative global dynamics involved in creating forms of biological sub-citizenship in the places from which health-workers are extracted. What can be called a necropolitical gap in health system capacity is created, but it is driven by adverse incorporation and sub-citizenship differentiation within a globally unequal system rather than by any simple sort of rejection and exclusion.

Global organ trading illustrates the extractive affects of adverse incorporation in another embodied but more sub-cutaneous form. The scale and impact may not be as widespread as with health-worker brain-drain, but the extraction and exploitation of bio-value is brutally clear. Indeed, in the trade in organs, we also see very clearly how the risk-managing strategies of today’s biological citizens are directly supported by the risk-increasing experiences of others who are disempowered by class and intersecting power relations of ethnicity, gender and geography (Greenberg, 2013). The kidneys, corneas, intestines, tendons, livers, and even lungs that are globally traded are not all sourced in the same way, with some ‘donations’ remaining genuine gifts, while others involve the legalized sale of tissues-turned-commodities by commercial living donors, and yet others involve illegal transactions and trafficking of the underground global ‘red-market’ (Carney, 2011). By adding commodified organs and tissue to global biomedical supply chains, and by also contributing to a growing global business in medical tourism, today’s transplant trading systems (and associated innovations in for-profit surrogacy) eclipse older ethical boundaries between gift economies and commercial economies at the same time as they transcend the old territorial boundaries of national organ donation systems, national waiting lists and associated national regulations (Waldby and Mitchell, 2006). For the recipients whose health risks are successfully reduced (or who find a way to have children through the services of a commercial surrogate) this is undoubtedly a good example of the post-national political-economy of hope; the same hope that biological citizenship both inspires and depends upon. But it is also often extractive and damaging to the donors who are turned into biological sub-citizens at the same time.

Nancy Scheper-Hughes highlights the asymmetries of sub-citizens very clearly in her work on organ-trading, detailing how the global circulation of organs follows the pattern of financial globalization with value moving from the Global South to the North: “from poorer to more affluent bodies, from black and brown bodies to white ones, and from females to males” (Scheper-Hughes, 2005: 147). Driving this extraction of biovalue by more enfranchised biological citizens is of course the desperation of the donors and donor communities. These are people and places who have already seen their basic survival and citizenship options radically curtailed by austerity and by associated tendencies towards the break-up of primary health care into systems of patchy, privatized and inequitable for-profit medicine (Budliani-Saberi and Karim,

2009).

Offshore drug testing also represents a pattern of extraction and exploitation but takes it down to the still more molecular scale of pharmaceutical development. This too involves embodied experiences of biological sub-citizenship because of the recruitment of ‘experimental subjects’ in poor communities for the testing of pharmaceuticals needed to treat biological citizens in more privileged contexts. There are both biological and economic imperatives that come together to make this offshoring of testing especially important for drug development.

On the biological side, Adryana Petryna (2007) explains that one advantage of recruiting experimental subjects in poor country settings is that they allow researchers to test drugs in bodies that are free from the pharmacological interference of other drugs. In the language of drug-testing science, the bodies of fully enfranchised biological citizens make for less optimal clinical trials because they are ‘treatment saturated’. Indeed, they are so full of pills, and so beset by advertisements for more pills, that critics are beginning to discuss the associated explosion of risk management demands as a form of subservient ‘surplus health’ sub-citizenship for supposedly enfranchised biological citizens (Dumit, 2012). By contrast, precisely because they are biological sub-citizens, poor people’s bodies are usually much better for research because they are said to be ‘treatment naïve’. This means that new drugs can be tested on poor people without the risk of the drug-to-drug interactions that make it hard to show the specific effects of a single drug and which therefore undermine the statistical significance of drug trials conducted on ‘treatment saturated’ bodies (see also Rajan, 2012).

A whole industry of contract research organizations now caters to the need to find suitable experimental subjects all over the world guided by the economic demands for a return on investment (Cooper, 2008). With this political economy of hope comes an economic need for cost-cutting, and this leads to more and more of the contract research being conducted on biological sub-citizens who live in parts of the world where the costs are low. They in turn sign-up to take part in experiments precisely because they are poor and because it is often their only way of accessing any treatment at all. In a clear example of being adversely incorporated into an exploitative form of biological sub-citizenship, they are exposed to the testing risks of the clinical trials so that risk-managing biological citizens elsewhere can avoid them (Rajan, 2006).

5. Biological sub-citizenship through financialized experimentation

Finally it is important to consider the ways in which global health initiatives today seek to offer new forms of biological citizenship to the many people around the world to whom it has been denied. This is a very real political economy of hope, and it is often preoccupied with helping individuals realize the promises of personalized medicine on a global basis. But a little like the haphazard scenes of voluntarism on Greek beaches with which this article began, the attempts to intervene in situations scarred by austerity have too often turned out to be uneven, unsustainable and inadequate. The reasons why are many, and include all sorts of complex context-specific factors that have undermined integration and collaboration with country-controlled health systems. In some countries the damage done by austerity, along with corruption, war and interventions by foreign militaries and corporations has almost completely destroyed such systems altogether. Due to these reasons as well as more longstanding tendencies in colonial and international health, many global health experiments today tend to approach the challenge of biological enfranchisement with top down, vertical interventions focused on particular diseases in

particular places (Packard, 2016). And it is this very same biomedical verticalization of global health interventions that has created new patterns of exclusion and biological sub-citizenship.

The preference for vertical intervention over horizontal health systems strengthening has also now been built into the overall governance of global health through a calculus of cost-effectiveness that is itself overshadowed by austerity. Even countervailing outlooks and agencies (such as within the WHO) have been pulled largely into line by the associated imperatives of accountability to international donors and finance ministers (Chorev, 2013). Frequently foreclosing alternatives of ‘horizontalization’, the top down vertical approach and all its demands for bureaucratic accountability through target-setting makes it hard for advocates of so-called ‘diagonalization’ to make the case that money targeted at particular diseases might be better spent on health systems more broadly (Ooms et al., 2008; Taylor and Harper, 2014). Instead, underlying assumptions of scarcity tied to the orthodoxy of austerity and neoliberal norms of accountability to donor governments and philanthropies all tend to reinforce verticalized programs and the public-private partnerships that implement them (Mitchell and Sparke, 2016; Ruckert and Labonté, 2014). Even arguments for health systems strengthening have been turned into an acronym and captured this way by the moving target of so-called HSS (Storeng, 2014). Transformed into lists of indicators for fine-tuning vertical programs as Storeng documents, HSS has also been depoliticized this way through cost-effectiveness comparisons with top down global health initiatives where its success is measured in terms of return on investment rather than as a political call for a return to public funding for universal primary health (WHO, 2009).

Organizing this dominant verticalized approach more generally has been an underlying investment logic that can also be understood in part as an analytical legacy of austerity. It is an economic and neoliberal logic that is about achieving the maximum possible return on global health investments as measured by reductions in morbidity and mortality, and a logic which for the same reason is also very much bound up with a distinctly financialized ‘governmentalization of living’ (Wahlberg and Rose, 2015). In the bolded words of the Lancet Commission’s *Global Health 2035* report: “**There is an enormous payoff from investing in health**” (Jamison et al., 2013; 1898). Focused on increasing economic growth and the economic value of additional life-years (VLYs), the report and many others like it proceeds to make the case that: “The returns on investing in health are impressive;” and, that with sufficient targeting on the best investment opportunities, “good reasons exist to be optimistic about seeing the global health landscape completely transformed in this way within a generation” (Jamison et al., 2013; 1947).

Based on all the hopeful financialized appeals for redemptive cost-effective investment, the targeting of pathologies for global health interventions proceeds with little analysis of the pathological disinvestment processes that co-produced vulnerability to illness initially (Chiriboga et al., 2015). Some notable exceptions do address these political-economic pathologies by highlighting the legacies of structural adjustment (e.g. Farmer, 2004), and there is clearly no reason why such critical arguments cannot be combined with evidence that health investments have also really saved lives and reduced suffering in the face of enormous ongoing challenges (e.g. Binagwaho et al., 2014). But while these more critical voices and nuanced approaches in global health have mobilized real resources, the control of responses more globally has been steered by an approach to targeting intervention that avoids addressing how prioritized sites of investment remain burdened by the legacies of austerity. The interventions are instead guided more by the focus on the burden of particular diseases in particular places rather than on the border-crossing political-economic influences that create

vulnerability to disease and disability (Laurie, 2015). As a result, accessing health services in many parts of the global south is now increasingly about what Nora Kenworthy (2014) calls 'reciprocity'. For recipients themselves this means making the right case about having the right disease in the right place at the right time in order to qualify for a grant-funded and often short-lived and experimental global health program. And then, even if individuals do have the right disease and can qualify as 'therapeutic subjects' in such programs, they still have to return from what Vinh Kim Nguyen calls the 'republics of therapy' to societies and situations burdened by the legacies of austerity (Kalofonos, 2010; Nguyen, 2010).

The overall affect of leaving many communities without any meaningful kind of health rights and health citizenship despite all the targeted investment in health is surely another form of biological sub-citizenship. Layered on top of the exclusions and conditionalization created by austerity itself, and distinct from the extraction and exploitation enabled by global market forces (although see Crane, 2013), its development under conditions of pro-market financialization and experimentation clearly still bears the hallmarks of neoliberalization.

6. Conclusion: Biological sub-citizenship and the social determinants of health

The preceding pages have sought to chart the diverse dynamics through which austerity and associated processes of neoliberalization have come to be embodied globally in ill-health. Exclusion and conditionalization, extraction and exploitation, and the financialization of compensatory global health investments have all been identified in this way as dynamics driving disenfranchisement from the biological citizenship idealized by Rose and Novas. By developing the concept of biological sub-citizenship to describe these disenfranchising outcomes, this article has in turn sought to connect the lessons of critical research on the bio-inequalities of biocitizenship with the larger political-economic and public health literatures addressing austerity and neoliberalization as social determinants of health. This has made it possible to critique what happens to human health when neoliberalism's political-economy of hope materializes as a political-economy of austerity. However, just as with earlier accounts of the structural violence of structural adjustment, critical questions can still be asked about the assumptions and determinism involved in treating austerity and neoliberalization like this as especially influential social determinants of health (Farmer, 2004). Addressing just two of these questions here in conclusion offers a way to underline further the need to theorize biological sub-citizenship as a relational concept: a concept that demands analysis of the diverse social dynamics of health rights disenfranchisement, and thus a concept that, by complementing and complicating assumptions about biological citizenship, can also supplement and more fully socialize epidemiological accounts of the social determinants of health.

First, there is the question that can be asked about ignoring other intersecting forms of political, cultural and social violence – war, racism, patriarchy, and homophobia being key amongst them – that can all in different ways in different contexts co-determine experiences of biological sub-citizenship. Second, there is also the question of assuming that more enfranchised incarnations of personal neoliberalization are always aligned with the self-making practices of individuals enlisted into being responsible, entrepreneurial and prudential market subjects. Other work on the bio-politics of neoliberalism and its geopolitical exceptions has indicated that avoiding the second of these questionable assumptions can actually help with avoiding the former. For example, it has highlighted that while cross-border belonging can be aligned in the

entrepreneurial enlistment of cosmopolitan consumers (such as privileged British tourists in Greece) this remains a conjunctural, class-specific alignment that commonly coexists with all sorts of illiberal expulsion, carceral cosmopolitanism, and racialized oppression for others (Hyndman, 2012; Loyd and Mountz, 2014; Sparke, 2009). Developed in this same spirit of inclusive, open-ended, and non-deterministic analysis, the concept of biological sub-citizenship offers a way of theorizing diverse divergences from more fully enfranchised forms of biological citizenship. More than this, as the section on extraction and exploitation in this article underlined, it can further help bring into focus how biological citizenship for some is globally dependent on biological sub-citizenship for others. And it is these relational emphases that in turn invite more social research on the social determinants of health.

Ultimately the study of biological sub-citizenship forces a rethinking of both the 'social' and the 'determinants' in the social determinants of health. Supplementing epidemiological analysis of inequality metrics with more socially-searching analyses, it simultaneously demands a non-deterministic rethinking of determinants. The social determination of embodiment can then be researched in relation to multiple overlapping power relations and causal pathways (Krieger, 2005). These clearly include all the political-economic relations through which austerity and neoliberalization have become embodied. But, insofar as biological sub-citizenship helps name these embodied outcomes, it does so in a relational way that also invites further work on all the other intersecting social determinants that need to change if humanity is ever to realize hopes of biological citizenship for all.

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