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**Contingent Encounters: Understanding Polarization in an Age of Homophilic Digital Networks**

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We are witnessing a polarisation of opinions and political groupings across the world, as evidenced by the rise of populism, conspiracy theories and an increasing distrust of authority. One common theme which runs through this polarisation is the mediation of social media. I thus ask, what is it about social media that creates polarisation, and how can a philosophy of the encounter help remedy it? I argue existing understandings of polarisation online such as the filter bubble hypothesis are technologically deterministic. This determinism, I argue is confusing academic critiques of the sociological principle of homophily. To counter this position and extend our critique of homophily in network science, I propose to turn to Louis Althusser's 'The underground current of the materialism of the encounter' in which he argues that contingency and openness is the material basis for freedom, thinking and the encountering of the world. With an emphasis on contingency, we can correctly ascertain how technology distorts and intervenes in the encounter. This paper aims to build on such a critical stance for analysing digital networks by reclaiming the contingency which defines true encounters and arguing that to understand polarisation means to move beyond the filter bubble hypothesis. This in turn enables a clearer understanding of the role homophily plays in causing polarisation within social media. The implications of these findings instruct us to look outside of algorithmic structure of social media and into the wider societal causes of polarisation.

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# Contingent Encounters: Understanding Polarization in an Age of Homophilic Digital Networks

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Benjamin Francis Potter

## Introduction

We now exist within the data-driven society.<sup>1</sup> The rise of social digital networks brought with them a range of data about our activities which could be captured. Increasingly granular methods of capturing data which track our every click, hesitation, and like came to form data doubles of ourselves. These data once processed into information provided the basis for a new business model based on predictive advertising.<sup>2</sup> But is this new political economy accountable for a litany of polarising flashpoints which seemingly define political life in the 21<sup>st</sup> century? We think of Brexit, Donald Trump, and the embittered 'culture wars', all of which seem to us symptomatic of a polarised public discourse which is driven by aggressive in-grouping on social media. Or so the conventional wisdom goes. The common-sense argument claims social media groups us into 'filter bubbles' and 'echo chambers' by digitally amplifying the sociological phenomena of homophily, the idea that we tend to group with those with whom we share common traits.<sup>3</sup> But do these conventional understandings satisfactorily explain these phenomena, and if they don't, are they distracting us from the real problems causing polarisation? I want to argue that the concepts of filter bubbles and echo chambers are technologically deterministic and thus a red herring in our quest to discover the relationship between social media and polarisation, and that the role of homophily in causing agitated and polarised groups on social media needs to be separated from the filter bubble hypothesis and held in conjunction with the political economy of the platform giants if we want an accurate understanding of the role social media plays in facilitating a polarised political landscape.

I will critique these technologically deterministic explanations with a theoretical framework found in Louis Althusser's aleatory materialism.<sup>4</sup> I then move on to critique the notion of filter bubbles, echo chambers and the related concept of homophily, showing it

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<sup>1</sup> Mireille Hildebrandt, *Smart Technologies and the End(s) of Law* (Cheltenham: Edward Elgar Publishing, 2015), p. 46.

<sup>2</sup> Bernard Stiegler, *Automatic Society volume 1: The Future of Work* (London: Polity Press, 2016), pp. 19–20, and Nick Srnicek, *Platform Capitalism* (London: Polity Press, 2017).

<sup>3</sup> Eli Pariser, *The Filter Bubble: What the Internet is Hiding From You* (London: Penguin Books, 2012), Miller McPherson et. al., "Birds of a Feather: Homophily in Social Networks" *Annual Review of Sociology*. 27 (2001).

<sup>4</sup> Louis Althusser, *Philosophy of the Encounter: Later Writings 1978–1987* (London: Verso, 2006).

is necessary to discard the former and retain the latter if we want to accurately grasp the role social media plays in polarisation. Once assessed on its own terms, and not viewed as a mechanism to trigger filter bubbles, I show through an aleatory reading that it is possible to strengthen the critique of homophily and thus advance our understanding of polarisation. I argue that homophily online is not a representation of some static anthropological trait which permeates wider society, nor does it automatically lead to filter bubbles and polarisation. Instead, I show that it is a contingent effect of the political economy of digital networks which helps facilitate the spread of polarising information and shapes the type of encounters we have on social media.

### Althusser and Contingent Encounters

My argument is that conventional critiques of social media and its relationship to polarisation are technologically deterministic and that we need a theoretical foil capable of highlighting this determinism. I find such an approach in Louis Althusser's philosophy of the encounter where he provides us with a way into thinking how seemingly fixed and static constellations are historically contingent and how such contingency opens a space for human beings to gain agency.<sup>5</sup>

Althusser grounds his philosophy of the encounter within the Epicurean atomism recounted in the Roman poet's Lucretius epic, *The Nature of Things*. In it, Lucretius recalls how atoms are falling in a void, parallel with each other, until a swerve causes the atoms to collide, providing the origin of all meaning, reason and things which constitute our world.<sup>6</sup> But this enduring encounter that constitutes the world as 'what is' is not what most interests Althusser. He is more interested in what he calls the 'brief encounter' or what might have been or what did not last. From this Althusser infers that the 'fait accompli' or world as it is, which we tend to view as something entirely necessary is in fact, a necessarily contingent conjuncture.<sup>7</sup> Althusser is here attempting to draw attention to a line of philosophy which views the constellations which structure our social and political world in terms of "their contingency and a recognition of fact, of the fact of contingency, the fact of the subordination of necessity to contingency, and the fact of the forms which 'gives form' to the effect of the encounter".<sup>8</sup> For Althusser, this

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<sup>5</sup> Ibid, p. 167.

<sup>6</sup> Lucretius, *The Nature of Things* (London: Penguin Books, 2007), p. 43.

<sup>7</sup> Althusser, p. 169.

<sup>8</sup> Ibid, p. 170.

way of thinking is the only power philosophy possesses.<sup>9</sup> It is power because by thinking about the structures of our social and political lives in terms of their contingency, we can think the terms of their transformation. It is also power because, in contingency, we find agency, a space for human subjects to influence a 'could be otherwise'. As Ross Speer aptly summarises in his commentary on Althusser's aleatory materialism, "Social systems can transition into new systems comprised of new sets of laws. No particular configuration is destined to arise or persist indefinitely."<sup>10</sup>

A careful reading of Althusser suggests that he is doing two things with the notion of the 'aleatory'. The first is that he is arguing contingency provides the ontological foundation of what exists in our world and that subsequently, chance, unpredictability and randomness are what give meaning and agency to human experience. Second, Althusser is proposing a methodology for philosophical inquiry. What is important for this method is to read past events not as deterministic but as contingent. This means focusing on events where social structures fleetingly formed before falling away. This reading of 'aleatory materialism' allows me to correct for technologically deterministic interpretations with a renewed emphasis on human autonomy within digital networks whilst simultaneously remaining aware of the contingent histories out of which these networks sprang. As I will show, it is important to retain both these dimensions of the aleatory if we want to understand the relationship between social media and polarisation.

## Filtering out the Bubble

The concepts of filter bubbles and echo chambers have become popular arguments for explaining how social media causes polarisation. I want to counter this claim as the existence of filter bubbles online is now widely disputed, yet, the concept is still used by academics to explain polarisation, and this is preventing a clear understanding of the role homophily plays in polarisation online.<sup>11</sup>

Popularised in his 2011 work, *Filter Bubbles: What the Internet is Hiding from you*, Eli Pariser claimed that increasing digital personalisation in search and advertising

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<sup>9</sup> William Lewis, "Louis Althusser", *The Stanford Encyclopedia of Philosophy* (Fall 2022 Edition), Edward N. Zalta & Uri Nodelman (eds.).

<sup>10</sup> Ross Speer, *Aleatory Materialism: Louis Althusser and the Necessity of Contingency*. (University of Oxford, 2018), p. 119.

<sup>11</sup> The critique below focuses on Eli Pariser and Wendy Chun's conflation of the concepts of filter bubbles and homophily. For Wendy Chun's critique of homophily and her association of this term with echo chambers, see *Discriminating Data: Correlation, Neighbourhoods, and the New Politics of Recognition* (Cambridge: The MIT Press, 2021), p. 82. For research which contests the filter bubble hypothesis see Richard Fletcher, 'The truth behind filter bubbles: Bursting some myths' *Reuters Institute for the Study of Journalism* (2020). Accessed online at: <https://reutersinstitute.politics.ox.ac.uk/news/truth-behind-filter-bubbles-bursting-some-myths>.

meant that algorithmic mediation on the internet had started filtering us into distinct communicative pockets.<sup>12</sup> Within these pockets, he says, we are inoculated from information which doesn't fit with an understanding of ourselves rendered from digital traces we have left on the internet. Pariser takes issue with the capturing of data to create 'personal profiles' of citizens online, which he believes always constitutes a flattened or diminished version of a person.<sup>13</sup> Pariser's theory argues that algorithmic filtering calculates your likes and seeks to 'extrapolate' them across networks to 'predict' desires with the result that "these engines create a unique universe of information for each of us... which fundamentally alters the way we encounter ideas and information."<sup>14</sup> Pariser has since adapted this thesis in the wake of a study published by Facebook researchers which looked at the drivers of ideological news consumption on the site.<sup>15</sup> He now places less emphasis on the algorithmic recommendation in creating filter bubbles and more on the notion of 'who your friends are'.<sup>16</sup> In doing so he has tied the filter bubble hypothesis to homophily, the sociological principle that similarity breeds connection.<sup>17</sup>

Homophily has since the mid-2000's been widely used in network science to engineer how we group online.<sup>18</sup> In digital networks, the principle works by transforming atomised nodes in a network (in our case, an individual profile) into a collection of networked nodes which have been linked through similarities in their profiles. This is the 'extrapolation' Pariser alluded to, and the principle that 'birds of a feather flock together' informs how network scientists use algorithms to predict the likely preferences and behaviour of subjects.<sup>19</sup> In this reading then, homophily is a technique which seeks to eliminate randomness in order to engineer a predictable flow of communications and information, all at the expense of human agency.

But are claims of filter bubbles driven by homophily backed up in empirical evidence?

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<sup>12</sup> Pariser, *The Filter Bubble*.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid, p.10.

<sup>15</sup> Eytan Bakshy et al., 'Exposure to ideologically diverse news and opinion on Facebook'. *Science* 348, 1130–1132 (2015).

<sup>16</sup> Eli Pariser, 'Did Facebook's Big Study Kill my Filter Bubble Thesis?', *Wired*, (2015).

<sup>17</sup> Miller McPherson et. al., "Birds of a Feather: Homophily in Social Networks" *Annual Review of Sociology*. 27 (2001).

<sup>18</sup> Laura Kergon et. al., 'Homophily: The Urban History of an Algorithm' in *e-flux architecture* (2019). Wendy Chun and her co-authors show how since the 2000's homophily's use within academic research has risen dramatically, mostly in computer science, sociology, and the behavioural sciences.

<sup>19</sup> Chun, pp. 96–99.

According to a study from 2016, the opposite is in fact true.<sup>20</sup> What happens more frequently within digital networks is what Axel Bruns calls a 'context collapse' where information flows freely across permeable networks leading to people viewing a wider range of content in online environments than they do offline.<sup>21</sup> As Bruns states, social media "appear to make serendipitous encounters with counter-attitudinal content more common."<sup>22</sup> So, those who talk of algorithms steering us into polarised groups slide into a technological determinism which reduces the role of human agency within these structures and overestimates the power of algorithms to shape human behaviour.<sup>23</sup> The danger inherent in such a view is that it abstracts technology away from society and in doing so takes our focus away from societal causes of polarisation such as economic struggles, extreme political discourse, populism and so on. This is not to say that social media has no effect on the facilitation of polarisation but that the causes of such polarisation are to be sought within society itself.

How then are we to understand the role of social media and its relationship with polarisation without this abstraction whilst still remaining aware of the fact that the overall implicit goal of the platform giants is to shape behaviour towards ends which are dictated by economic pressures? In other words, how do we understand technologically facilitated control without sliding into a critique which is technologically deterministic?

We are, with Althusser, instructed to the materialism of the digital and reminded of contingency's role in giving human subjects agency. With his aleatory materialism, Althusser was proposing was something like a Foucauldian archaeology or genealogy in the sense of going back through the annals of history to trace the fluctuations that occur as contingency at the exteriority of events.<sup>24</sup>

This is the kind of approach Wendy Chun adopts in her critique of homophily. Much like Pariser, Chun suggests that when homophily is used to understand and group relations in digital environments it construes a 'flattened' understanding of human social relations. It presents a certain ontology of digital life, one which is optimised for the keeping of eyeballs on screens. Indeed, for every 'birds of a feather' there is an 'opposites attract', and as we well know, politics and social life have been about the management

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<sup>20</sup> Michael A. Beam, Myiah J. Hutchens & Jay D. Hmielowski, 'Facebook news and (de)polarization: reinforcing spirals in the 2016 US election', *Information, Communication & Society*, 21:7 (2018).

<sup>21</sup> Axel Bruns, *Are Filter Bubbles Real?* (London: Polity Press: 2019), pp. 66–68.

<sup>22</sup> *Ibid*, p. 86.

<sup>23</sup> For an analysis of the pitfalls of technological determinism and symptomatic technology, see, Raymond Williams' essay 'The Technology and the Society' in *Television: Technology and Cultural Form* (London: Routledge, 2003).

<sup>24</sup> Michel Foucault, 'Neitzsche, Genealogy, History' in *Essential Works of Foucault 1954–1984 Volume 2*, James D. Faubion eds. (London: Penguin Books, 2000), pp. 371–381.

of conflict and diverging opinions since time immemorial. Even the origin of the term homophily came with an alternative: 'heterophily' – friendship through difference.<sup>25</sup> Chun endeavours to show that the hierarchy of homophily > heterophily serves to naturalise a contingent concept in cases where race and demographics intersect. She claims that in McPherson et al's definitive study of homophily they "portray it as natural and timeless" rather than as a 'historically contingent' occurrence whose conceptual origin is deeply embedded within a context of complex race relations within the United States.<sup>26</sup> According to Chun, the rise of homophily and the side-lining of heterophily as sociological concepts serve to perpetuate sameness at the expense of difference.<sup>27</sup>

However, despite substantial evidence suggesting that homophily exists pervasively within digital networks, there is also strong evidence that this does not lead to polarisation via filter bubbles and echo chambers and that, as Bruns suggested, social media exposes us to more diverse sources of information.<sup>28</sup> Yet Chun still buys into the myth of filter bubbles and echo chambers, and this, in my view, prevents her from maximising the effectiveness of her critique of homophily. She argues that "echo chambers are not unfortunate errors, but deliberate goals" of social networks and that, the driving force of this, homophily, "has turned into a generative formula that polarizes networks".<sup>29</sup> But when seeking to understand the materiality of social structures Althusser reminds us to keep an aleatory phrase in mind: "it all depends".<sup>30</sup> Depends on what though?

Homophilous clusters within digital networks are not simply extreme types. They are varied, some more strongly homophilous, some less so.<sup>31</sup> Moreover, the types of grouping online are also myriad, and each user may exist in more than one cluster. Be they political, religious, social, sporting, or various other interests which human beings hold and discuss online. So even if a user on a social network is within a strongly homophilous cluster for a sports team for example, this does not mean that they would be elsewhere. How polarised interactions on social media become *depends* on how humans use social media.<sup>32</sup> This is an aleatory insight, as important, if not more so, than the technical structure of social media itself. This is what technologically deterministic

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<sup>25</sup> P Lazarsfeld and R.K. Merton, 'Friendship as a Social Process: A Substantive and Methodological Analysis' in *Freedom and Control in Modern Society*, ed. by M Berger, T Abel and H Charles. (New York: Van Nostrand, 1954), p. 23.

<sup>26</sup> Chun, p. 96.

<sup>27</sup> Ibid, pp. 97–99.

<sup>28</sup> For evidence of homophily online see Kergon et al.

<sup>29</sup> Chun, p. 85.

<sup>30</sup> Althusser, p. 263.

<sup>31</sup> Bruns, p. 89.

<sup>32</sup> E. Colleoni et al., 'Echo Chamber or Public Sphere? Predicting Political Orientation and Measuring Political Homophily in Twitter Using Big Data', *Journal of Communication*, p. 328.



understandings of filter bubbles driven by homophily fail to appreciate. We can say then, that whilst Chun's analysis does good work to expose the racially contingent foundations of homophily, she stops short of a fully aleatory understanding of homophily by viewing its effects in a technologically deterministic manner.

Homophily online exists in an overlapping and porous way. We could imagine then, by means of an analogy, that the walls built by homophilic networks are not impermeable. In actuality, they are punctuated by algorithmic sluices which control the flow of information within such clusters. This is a more nuanced insight than the idea that filter bubbles hide things from us. We can thus say that counter to Chun's claim that homophily is a tool to deliberately engineer echo chambers, in actuality homophily does not cause polarisation by isolating us into groups and preventing us from seeing information we disagree with. But is there another way homophilous groupings may be facilitating polarisation?

## The contingent effects of platform capitalism

Counter Eli Pariser's claim that filter bubbles mean the internet is 'hiding' information from you, and Chun's claim that they are the 'deliberate goals' of digital networks, when online, we are actually exposed to more diverse sources of information.<sup>33</sup> This is what 'bursts' the filter bubble hypothesis and leaves us better placed to understand how homophily helps keep user attention online and inadvertently facilitate polarisation.

The reason why we are exposed to more diverse sources of information online is down to two factors, human agency, and the need for platforms to keep eyeballs on screens. According to a recent report "advertising provided 98% of Facebook's \$86 billion in revenue" and "Google, which includes YouTube, reported \$182 billion in revenue, 81% of which came from advertising."<sup>34</sup> This process of data capture and behavioural prediction has been coined 'surveillance capitalism' and involves platforms selling data about users to advertising companies.<sup>35</sup> The more time individuals spend on social media platforms, the more data these platforms have about users, meaning they can sell more adverts. This means there is a double and direct incentive to keep users on their platforms for as

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<sup>33</sup> Sarita Yardi and danah boyd, 'Dynamic Debates: An Analysis of Group Polarisation over Time on Twitter'. *Bulletin of Science, Technology & Society* 30 (5), 2010: 325. See also, Bruns, p. 86.

<sup>34</sup> Paul M. Barrett et. al., "Fueling the Fire: How Social Media Intensifies U.S. Political Polarization – And What Can Be Done About It" NYU STERN Center for Business and Human Rights (2021), p. 8.

<sup>35</sup> Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (London: Profile Books, 2019).



long as possible.<sup>36</sup> It is this point which we have to keep in focus when seeking to explain the role of homophily in facilitating polarisation.

Within the porous and overlapping boundaries created by homophilic profiling, sources are diffused and varied, more so than offline. Furthermore, in contrast to the filter bubble hypothesis, where the belief is that lack of exposure to opposing views causes polarisation, there is strong evidence to suggest that exposure to opposing information actually causes more polarisation.<sup>37</sup> So where does this leave homophily? On this account it seems as though its influence may not be as important as previously thought. However, there is a distinction that needs to be made between the *type* of news we receive and *where* we share and receive it. Crucially, within the flattened and homogenous yet overlapping networks of digitally manipulated groups, information, specifically, polarising, and divisive information spreads more quickly. Indeed, as the 2021 survey of political polarisation in the United States shows, “[c]ontent that elicits partisan fear or indignation is particularly contagious and helps fuel this advertising business model.”<sup>38</sup> This means that the structuring of ‘agitated clusters’ as Chun calls them are within the structure of social media platforms not because they hermetically seal us within disparate groups online but because they help facilitate the spread of divisive, moralising and polarising content which is the most attention-grabbing information. Thus, the capacity to most effectively spread polarising and partisan information is a feature not a bug of digital networks. When we separate our critique of homophily from the assumed result of filter bubbles and understand it as a contingent effect of a political economy which promotes polarising content which grabs attention on social media, we get a better insight into what is actually happening with polarisation. Polarisation already exists outside of digital networks and has been on the rise for decades prior to the uptake of social media networking.<sup>39</sup> What social media, driven by its specific political economy does, is provide a mechanism for catalysing the free-flowing spread of such information.

Paradoxically then, homophily online limits our choices not by locking us into echo chambers but by artificially catalysing the spread of moralising and partisan content. It does not matter if the information agrees with or disagrees with existing views. What matters is that it maximises user attention. Here there is a limiting of choices which shapes behaviour, albeit a subtle one, and as a result, I would qualify Axel Bruns claim

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<sup>36</sup> For a thorough analysis of this new political economy, see Srnicek, *Platform Capitalism*.

<sup>37</sup> Christopher A. Bail et. al., ‘Exposure to opposing views on social media can increase political polarization’ *PNAS* 115 (37), pp. 9216–9221.

<sup>38</sup> Barrett et. al., p. 8.

<sup>39</sup> Eli J. Finkel et al. Political sectarianism in America. *Science* 370, 533–536 (2020).

cited earlier, that social media increase the likelihood of “serendipitous encounters with counter-attitudinal content.” For sure, encounters with counter attitudinal information may be more frequent, but this is not serendipitous. It is by design, in order to maximise profit for platforms.<sup>40</sup> The algorithmic structure of social media environments is about creating environments which allow seamless transmission of partisan and inflammatory information which keeps people glued to screens and which in turn helps facilitate a polarised political landscape. This limiting of choices negatively shapes our behaviour, limiting our autonomy. As Yochai Benkler points out, for true autonomy you need to not only be free to carry out a certain action but know that action is open and possible for you in the first place.<sup>41</sup> And within the social media ecosystem where algorithms are ‘black boxed’ and primed to optimise engagement, balanced, nuanced, and carefully considered content is less effective at keeping eyeballs on screens than inflammatory and polarising news and content. Thus, paradoxically, our choices become limited even as our sources of news diversify, as we are pushed towards divisive content.

## Conclusion

Correctly understanding the role homophily plays in shaping our encounters online matters because it helps us focus on the real issues causing polarisation within society. To come to this correct understanding, I argued that it was necessary to read filter bubbles, homophily and the wider political economy of platforms not as necessary but as contingent. The work of Althusser was key here as he reminds us of the ever-changing nature of social structures and the agency human beings have within aleatory materialism to shape this change. In moving beyond the misleading theories of filter bubbles and echo chambers and critiquing homophily not as a cause of pernicious in-grouping but as a mechanism to catalyse the spread of polarising information, we can see how social media accelerates polarisation without being the root cause of it.

Polarisation is a contingent and deeply complex phenomena which is to some degree a prerequisite for democratic statehood. But it is exacerbated and inflamed by other forms of mass media such as TV and radio. The implication of this point is that polarisation is not technologically determined but technology does mediate our experience of polarisation. With the technologically deterministic blinkers removed, we

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<sup>40</sup> As Nick Srnicek shows, the need for platforms to generate profits limits the types of actions which can occur within them. Srnicek, p. 9.

<sup>41</sup> Yochai Benkler, ‘Siren Songs and Amish Children: Autonomy, Information, and Law’ in *New York University Law Review* Vol 76:23, p. 67.

can focus on the key drivers of increasing polarisation across the globe: divisive political discourse and economic inequality.

We should find hope in Althusser's philosophy of the encounter as it instructs us to seek out the false starts and brief encounters which have littered the history of digital technologies. It is in these moments that we might glimpse other fruitful avenues of research or uncover, as Chun has done, the racial roots of concepts such as homophily which structure much of our digital networks. This task is one for the philosopher and critic – it is about how we might make sense of and understand our digital present so that we may imagine how we can transform our digital future. But it is also a task for all of us: to remember that in the contingency of encounters, human beings find the agency and power to resist and change what may seem inevitable.

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