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MANNERS AND HIERARCHY IN THE NATURAL SCIENCES

Abstract: Much recent anthropological work on the natural sciences has taken its starting point from Latour and Woolgar (1986). Yet one dimension that was little considered in their work was that both observer and observed were employed by Western European states and by institutions regarded as prestigious. This shoved questions of perceived authority or hierarchies of institutions and the state to one side. Consequently the foundations of such hierarchy on a broader historical scale, namely, a concrete discussion of the situation in which both the ethnographers and scientists found themselves, in relation to the economic history and context of Western imperialism, was left untouched. It is this topic I address, in offering a very different anthropological study of science. Following Graeber's (2007) work linking the rapid growth of mild avoidance relations (manners) over the past few centuries to the development of private property regimes, I look at how manners and 'polite conduct' express an unpleasant relation of hierarchy and how that connects with the natural sciences. Such sciences, according to Shapin (1995), have a male-biased grounding in being a conversation between 'gentlemen' in civil society. This is because, during the early modern period, there was a move towards valuing highly knowledge based on experience. Testimony played a crucial role in convincing others that your experiences and observations were worth taking seriously. Whilst not constituting the basis of truth alone, the question of who to trust, or rather, who was a credible spokeswoman for reality was of central importance. This 'credible spokeswoman' was typically a gentleman, a man of refined manners and conduct. I consider the implications of Shapin and Graeber's arguments for the natural sciences by exploring these fascinating connections between the global production of hierarchy in academia, manners and private property regimes through ethnographic material gained from eighteen months of ethnographic fieldwork based in Belgrade and Zagreb, working in scientific institutions with researchers and students.

Keywords: hierarchy, the body, private property, manners, natural sciences, gentlemen, the state, ethnography, Belgrade, Zagreb

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In this paper I will make a simple argument surrounding the historical precedents of 'gentlemanly' behaviour in the natural sciences. My argument will draw on the work of Shapin (1995) and Graeber (1997), examining the production of hierarchies inherent in the system of peer review. My argument in this paper is not ethnographic, but will be illustrated with reference to a particular media encounter between two scientists which occurred whilst conducting fieldwork with natural scientists in Belgrade and Zagreb from 2008 to 2010. As such, my knowledge of the historical and political context in which this encounter took place, gained through ethnography, will be mobilised.

Drawing on the work of Elias (2000[1939]) and Radcliffe-Brown (1940), the anthropologist David Graeber contrasted 'joking relations' with 'relations of avoidance'. Joking relations refer to relations of extreme informality, whilst avoidance relations are marked by such extreme respect and formality that one party is enjoined never to speak to or even to gaze upon the other under any circumstance. Graeber argued that such relations mark out a continuum. At one extreme, in avoidance, there is always a burden; one party is indebted to behave in a 'proper' manner towards the other, whilst the (superior) other has more licence to define the terms of the interaction. This was the case, for example, in many of my first meetings with scientists. Their phones often rang and they took calls throughout the meeting. Had my mobile phone rang however, I would have felt embarrassed about wasting their time. Graeber argued that

In joking – the body is more material, made of substances...in avoidance, the physical body itself is negated, the person is translated into some higher or more abstract level. The body in avoidance is constructed out of property (ibid. : p.20).

The bodies of people in joking relations are much more continuous both with each other and with the external world. As Graeber described

Joking partners 'tease' or 'abuse' one another; they toss insults, even missiles. At the same time, one hears again and again of joking partners privileged to make off with each other's possessions, and this sort of license is considered of a piece with all the others. There is a sort of symbolic equivalence at play: an equivalence, one might say, between **the taking of goods and the giving of bads** (ibid. : p.19) [my emphasis].

In avoidance however, there is a stricter boundary drawn between the two bodies and much stricter rules on how to behave. For Graeber, this is because the body in avoidance is constructed out of property. Property, as anthropologists are aware, is not a set of objects which people own, but more correctly describes a series of social relationships between people, which consist of "a bundle of rights and privileges with regard to some object, held by a person or group of persons to the exclusion of all others" (ibid. : p.23). Graeber sought to understand where this disparity came from. If we take the

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material, joking, world as our starting point and think about how joking relationships (the mutual taking of goods and giving of bads) may become hierarchical, i.e. where goods are taken and bads are given one-sidedly, then we see one way in which hierarchies arise:

In a joking world, there are only bodies, and the only possible difference between them is that some are bigger and stronger than others; they can take more goods and give more bads. And the implications of that for a view of the contemporary social order, and particularly for the moral standing of the high and mighty of the world, need hardly be mentioned (ibid. : p.30).

The growth of capitalist work patterns and regimes of private property were also accompanied by an increase in patterns of mild avoidance behaviour often referred to as 'manners'. The existence of avoidance relations stretch back much further over the historical and ethnographic record, yet what was peculiar about capitalism was the growth of such mild avoidance relations over a much wider domain, the importance of which was often stressed by aspirational social climbers and the wealthy, land owning classes. If the body is understood as constructed as property in avoidance, the increasing importance of manners can be explicitly linked to the growth of a private property regime, whereby the number of property owners rapidly increased, and such manners served as a means by which various groupings of people, with differing allegiances and amounts of property, could relate to one another, leading to social stratification of those groupings with common ground. This link was clearly visible in the cognates surrounding the word in Croatian for the economy (*gospodarstvo*). The term *gospodarstvo* is derived from the term *gospodar*, an old term which means owner of property, and has the same origin as the term *gospodin*, which means gentleman.

This change is interesting in light of recent work by Shapin (1998, 1995) on the historical origins of the natural sciences which emerged in early modern sixteenth and seventeenth century Europe as a perspective distinct from earlier 'natural philosophy' (see Dear 2001, p.16). Of great importance for the development of the natural sciences was a shift from a scholastic orientation, wherein the authority of certain old texts was unquestioned, to an empirical orientation. Recent work in the history of science has described other key factors accounting for the emergence of modes of inquiry which are now commonly described as natural sciences. Shapin (1995) argued that alongside the shift from a primarily scholastic to an empirical tradition, questions of trust and legitimate testimony came to assume central importance with the growth in importance of peer review (i.e. groups of well-respected gentlemanly scientists) in determining what sources of information and which experimental results were considered reliable. This increase in importance

grew in the mid-seventeenth century with the founding of the Royal Society in London in 1660. The Royal Society was founded on an ideal, which resonates with earlier discussion of the 'scientific community', of 'gentlemen' coming together to discuss natural philosophy, and agreeing to put political differences to one side. Whilst not constituting the basis of truth alone, the question of who to trust, or rather *who* was a credible spokesperson for reality, became paramount. The result of this shift in focus to the privileging of direct experience and testimony in developing arguments about the analysis of nature meant that natural philosophers were faced with the task of which travellers' testimonies to trust. This was also a consequence of the change in scale whereby reports, often from travellers, were now received of environments and 'objects of fancy' from different parts of the world rather than just one's immediate surroundings. Shapin argued that 'direct testimony was to be preferred to hearsay testimony; multiple testimonies to single; knowledgeable sources to vulgar...' (ibid. : p.249). Yet standards of vulgarity often depended on conduct and whether it accorded with gentlemanly standards. In fact, gentlemanly conduct, honour and respect came to play a large role in determining whether your account was believable or not. Combined with Graeber's interpretation that the body in avoidance is property, this suggests that those individuals with large private estates, and corresponding gentlemanly comportment, were viewed as more reliable sources of knowledge. This suggests that the peer review system is historically grounded in the history of capitalism and the spread of manners, or codes of civility, amongst the property owning classes.

Questions of gentlemanly conduct and manners also featured in many of my interactions between scientists. As earlier mentioned, older scientists typically acted more 'set-apart' from the world and expected greater formality. Norms of such conduct were also expected by certain members of the public. For example, in February 2010, a debate between two physicists in Croatia, Vinković and Paar², was televised and received coverage in the mainstream press. The tone was extremely bitter, and was part of a longer running dispute between the two individuals on an internet forum. Paar is an older and well-respected and established physicist, born in 1942. He has appeared on a number of television shows about physics and a colleague of mine described his public persona as a friendly 'grandfather' figure. Vinković is a much younger physicist, who recently returned to Croatia after having studied in the USA at the University of Kentucky and at Princeton. He thus had significant academic capital in academic circuits due to his study in the USA, yet as we shall see, this was not crucial for all viewers of the duel. The

²In this example I have not used pseudonyms, as the debate is available to view online and in any case, they were not 'informants'.

debate concerned whether parts of the world will enter a mini ice-age over the next one hundred years or not, hinging on the impact of global warming and how this might affect climate changes that are to be expected as a consequence of *Milanković cycles*. Milanković cycles are orbital periods spanning many thousands of years that mark out variations in the amount of solar radiation received by the earth, due to changes in three main factors: orbit eccentricity (the shape of the orbit around the sun), changes in the angle that the Earth's axis makes with the plane of Earth's orbit, and finally precession – the change in the direction of the Earth's axis of rotation. They are named as such after their discoverer, Milutin Milanković. Milanković, like the famous inventor Nikola Tesla, is renowned as an intellectual figure from the region. He was born in a village called *Dalj*, which is now part of Croatia, yet which at that time was part of Austro-Hungary. His life and work are often covered currently by the media in Serbia and Croatia at present, partly as issues concerning climate change have been particularly topical over the past few years. An online article summarised the debate as follows:

Pseudoscientists don't know what they are saying and their theses result from being convinced by truths which have no connection with science. However, according to Dejan Vinković, a young Professor of physics from the Zagreb PMF (*Physics and Mathematics Faculty*), Paar goes a step further. He is a liar and a swindler who intentionally deceives the public with scientific untruths... This was a dispute between a young scientist who chases truth with zeal as his only imperative at any cost, and an older, more experienced enlightener who is conscious that each popularisation he wrote was useful in pulling out, but also in vulgarising facts.³

The discussion became very vitriolic and aggressive, particularly on the part of Vinković, who claimed that Paar was a liar. We see this 'double barrel' of polemical statement and moralising in his denouncing of Paar:

Take this pen (lifts pen). I pick it up and it drops to the ground. Paar would make the prediction and then try to convince us that it would actually take off and fly⁴ (19th minute).

You are paid by tax payers to tell the truth, you have a social responsibility to do so, if you want to lie, find a private firm, and do your work there, and let them pay for you out of their pocket. (35th minute) [**my translation**].

Paar behaved much more calmly. He argued that Vinković's argument was not accessible to a much wider public and that any popularisation of science entailed a vulgarisation of the facts. Vinković replied that he was making a

³Translated from the online version (Vijesti, 2010).

⁴Translated from online video debate (Vinković-Paar, 2010).

fundamental and basic error in his argument and that the issue was not a complicated one. Paar commented:

How much of what Vinković has just said, do you think the average citizen of Croatia will understand? (20th minute).

One thing I learnt when I was working abroad is that, in scientific debates, when someone doesn't have a better argument, then they start with insults... (42nd minute) [my translation].

Paar was certainly a skilled rhetorician and closer to the gentlemanly ideal associated historically with natural science conversations, whilst Vinković pursued a polemical tone. Paar's proponents continually stressed his good 'manners' and conduct in contrast with Vinković, who was not engaging with the codes of honour expected of a public duel. Rather than attacking his arguments, Paar and his proponents thus attacked Vinković's gentlemanly credentials. By appearing 'polite' and 'cultural', Paar could play on an important opposition in the region between 'primitives' (*primitivci*) and 'civilised' urban elites to further his case and his authority. His 'supporters' made the following online comments:

Paar is on form **and a gentleman above all**

Oh dear God, this Vinković, what an **impolite, rude**, arrogant little girl

He (Paar) seemed like the only person **deserving of attention**⁵ [my emphasis]

Paar thus upheld liberal ideals of gentlemanly conduct, which as the second quote suggests, had a gendered component. Vinković's argument was rather a plea to 'reason', coupled with more polemic and less restrained comments, making reference to a different tradition more typically associated with other views in politics. For example, Marxist groupings are often noted for their use of polemic and extensive criticism, an issue which Bourdieu discusses in his choice not to pursue a polemical style in the preface to *Distinction* (Bourdieu 1986, p.xii) and his discussion of the Bourgeois tradition of having a personal 'opinion' on many possible political topics rather than, for example, having 'convictions'(ibid. : p.414).⁶ Gal & Kligman (2000, p.40) made this connection explicitly in stating; 'in the liberal and Bourgeois tradition, by contrast, public dialogue ideally entails restrained, reasoned discussion, assuming a fundamental

⁵ Extracts from the first ten comments beneath the video, (Vinković-Paar, 2010)

⁶This has absolutely nothing to do with the political convictions of Vinković and Paar, such as 'translation' from science to political thought is not normally possible, for there is rarely a highly defined ordering to many people's political beliefs (except maybe amongst some politicians). There are, of course, tendencies however.

deliberative process that, by its rational form, legitimates decisions'. Other anthropologists such as have also highlighted this continued importance, in his case in his study of the production of PCR (Polymerase Chain Reaction), in commenting that 'there is no doubt that evaluations of character, and their consequences for trust and mistrust, figure centrally in science; they certainly shaped the early days of PCR'.

In conclusion, in this short discussion I have attempted to illustrate how the growth in importance of empiricism and importance of testimony in the early modern period was key to scientific knowledge production, which in turn evidences a deep yet complicated relation with liberal political economy. However, as Jankovic (2004, p.67) observed, scientists in the Social Federal Republic of Yugoslavia claimed that scientific autonomy fitted in with the ethos of self-management as well so there is not necessarily a monopoly here. However, the historical path of the natural sciences was and continues to be grounded in ideals of gentlemanly conduct besides the cosmopolitan enlightenment ideals reminiscent of the 'Republic of Letters', and that this connection may suggest a need for wariness when scientists excessively rely on codes of comportment and a 'well-mannered' debate when discussing scientific work, especially in the public sphere.

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MANIRI I HIJERARHIJA U PRIRODNIM NAUKAMA

Skorašnja antropološka istraživanja prirodnih nauka započela su sa Laturom (Latour) i Vulgarom (Woolgar). Ipak, jedna dimenzija koja je malo razmatrana u njihovom radu povezana je sa time da su i posmatrač i posmatrani bili zaposleni od strane država zapadne Evrope i u institucijama koje se smatraju prestižnim. To je ostavilo po strani pitanja očiglednog autoriteta ili hijerarhije institucija i države. Zbog toga su osnove takve hijerarhije u širim istorijskim razmerama, odnosno konkretna rasprava o situaciji u kojoj su se našli i etnografi i naučnici u odnosu na ekonomsku istoriju i kontekst Zapadnog imperijalizma, ostale nedirnutе. Ovoj temi pristupam predlažući vrlo različit antropološki pristup nauci. Sledeći Graberov (Graeber) rad koji dovodi u vezu brz porast blagih odnosa izbegavanja (manira) tokom poslednjih nekoliko vekova sa razvojem režima privatnog vlasništva, posmatram kako maniri i "ljubazno ophođenje" izražavaju neprijatan odnos hijerarhije i kako je to povezano sa prirodnim naukama. Prema Šapinu (Shapin), ove nauke imaju mušku osnovu utoliko što predstavljaju razgovore između "gospode" u građanskom društvu. To je stoga što je tokom ranog modernog perioda postojao pomak ka vrednovanju visokog znanja zasnovanog na iskustvu. Dokaz je igrao ključnu ulogu pri ubeđivanju drugih da su vaše iskustvo i posmatranje vredni da budu uzeti za ozbiljno. Iako samo nije predstavljalo osnovu istine, pitanje kome verovati ili pre ko je bio verodostojan zastupnik realnosti bilo je od centralnog značaja. Ovaj "verodostojni zastupnik" obično je bio gospodin, muškarac prefinjenih manira i ponašanja. Na osnovu etnografskog materijala koji sam prikupio tokom osamnaestomesečnog terenskog istraživanja u Beogradu i Zagrebu, radeći u naučnim institucijama sa naučnicima i studentima, razmatram implikacije Šapinove i Graberove argumentacije za prirodne nauke ispitujući ove fascinantne veze između globalne produkcije hijerarhije u akademiji, manira i režima privatnog vlasništva.

Ključne reči: hijerarhija, telo, privatno vlasništvo, maniri, prirodne nauke, gospodin, država, etnografija, Beograd, Zagreb.