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Appeals to Experience in Hobbes's Science of Politics

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Hobbes was not an experimental philosopher. He had hostile exchanges with Boyle over the postulation of the 'spring' of air (Hobbes 1985) and he was critical of the experimental set-up that was supposed to support that postulation, as well the probity of its immediate audience. More generally, and contrary to the practice of many experimental philosophers, he tended to define natural philosophy as if it were in some sort of tension with natural history.¹ According to chapter nine of *Leviathan*,² histories, including natural histories, are registers of situations seen and remembered (Hobbes 1991: 60). Sense and memory, however, are particular, piecemeal, fleeting and fallible. By contrast, natural philosophy or science is universal in scope, penetrating, and, in principle, capable of reaching true and indisputable conclusions. Sense and memory provide some of the raw material of science – the appearances bodies present – but the process and conclusions of science are the product of reason (Hobbes 1991: 60), and depend on capacities for naming things, combining names into propositions, and constructing chains of deduction (Sorell 1986: 37). In Hobbes the terms 'science' and 'reason' are honorific; 'sense' and 'memory' are not. Neither is 'history', and he is explicit in his distrust of natural histories (Hobbes 1985: 351). In short, Hobbes condescends not only to experiment but to experience.

This paper considers an unusual break from that condescension – in Hobbes's civil philosophy. Although he claims for his own formulation of civil philosophy a kind of definitiveness and certainty that only geometry has among the sciences, and although both geometry and civil philosophy are supposed to be the products of reason, the necessity of establishing and submitting to the commonwealth is open to a certain sort of confirmation from experience. This is not because Hobbes concedes cognitive authority to sense and memory after all, but because civil philosophy has a rhetorical purpose that a certain kind of appeal to experience helps to achieve.

According to chapter nine of *Leviathan*, science is to be assigned higher value than mere ‘knowledge’ (that which is required in a witness), and science or philosophy is to be distinguished from history. Knowledge is of discrete facts; science reveals what the facts depend on. In natural science the relations of dependence revealed are between particular facts known and general truths couched in universal names. Natural histories are pre-scientific compendia of knowledge: they systematically register facts, but these supply only the raw material of natural science – its explananda.³ Explanations of observed facts result from reasoning to efficient causes captured in a highly general vocabulary for describing bodies and motions. Or at least this is how *natural* philosophy or science relates to history.

He also recognized sciences for constructing or making things – plane and solid figures in the case of geometry, and commonwealths in the case of politics. The sciences of artificial bodies do not start with observed properties and infer their causes: they start with a specification of a finished product and say how things with those properties can be generated at will – by the methods of geometrical construction in one case, and, in the other case, by people contracting together in a special way. A scientific politics can be *informed* by civil histories – narratives of the rise and fall of commonwealths in the past – but it doesn’t depend on them for its truth. What it depends upon is an analysis of human nature, consisting of non-historical truths about human sense, motivation and language, and how they contribute to potential human conflict under certain general and plausible assumptions. In this sense a science of politics is *independent* of history.

Hobbes has two ways of describing how the science of politics works. On the one hand, he associates it with a method of linguistic analysis for deciding whether any contemplated course of action would be just or unjust for a citizen to carry out. The other – more evidently connected to the description of civil science as a theory about the generation of a certain kind of body – consists of a thought experiment about the abolition of coercive political authority. This uses the science of human nature and what Hobbes supposes is a shared, worldly common sense about human behaviour, to arrive at the conclusion that people would be at war if released from subjection to

government. The drawbacks of war, which Hobbes enumerates, are so great as to give people good reasons for creating coercive political authority (a commonwealth or body politic) where it does not exist, or obeying it if it does exist locally.

Civil philosophy is described in the first way in chapter six, section seven, of *De corpore*:⁴

For if a question be propounded, as *whether such an action be just or unjust*; if the *unjust* be resolved into *fact against law* and that *law* into the *command* of him or them that have *coercive power*; and that *power* be derived from the wills of men that constitute that power, to the end they may live in peace, they may at last come to this, that the appetites of men and the passions of their minds are such that, unless they be restrained by some power, they will always be making war upon one another; which may be known to be so by any man's experience, that will but examine his own mind. And therefore, he may proceed, by compounding, to the determination of the justice or injustice of any propounded action (Hobbes 1845: Vol I: 74)

The second kind of approach is announced in the preface to the Readers of *De cive* (Hobbes 1998):

As far as my Method is concerned, I decided that the conventional structure of rhetorical discourse, though clear, would not suffice by itself. Rather, I should begin with the matter of which a commonwealth is made and go on to how it comes into being and the form it takes, and to the first origin of justice. For a thing is best known from its constituents. As in an automatic Clock or other fairly complex device, one cannot get to know the function of each part and wheel unless one takes it apart, and examines separately the material, shape and motion of the parts, so in investigating the right of commonwealth and the duties of citizens, there is a need, not indeed to take the commonwealth apart, but to view it as taken apart, i.e. to understand correctly what human nature is like, and in what features it is suitable and in what unsuitable to construct a commonwealth, and how men who want to grow together, should be connected (Hobbes 1998: 10)

These passages need to be taken together with textual evidence of a view of philosophy or science in Hobbes that associates it with reason to the exclusion of experience, and textual evidence that Hobbes is impatient with objections from experience to both the thought experiment of taking apart the commonwealth and his conclusion that the coercive power in the commonwealth has to be unlimited.

For the relevant view of philosophy one need look no further than chapter one, section two of *De corpore*, where philosophy or science is defined:

Philosophy is such knowledge of effects or appearances, as we acquire by true ratiocination from the knowledge we have first of their causes or generation: And again, of such causes and generations as may be from knowing first their effects.

For the better understanding of which definition, we must consider, first, that although Sense and Memory of things, which are common to man and all living creatures, be knowledge, yet because they are given us immediately by nature, and not gotten by ratiocination, they are not philosophy.

Secondly, seeing Experience is nothing but memory; and Prudence, or prospect into the future time, nothing but expectation of such things as we have already had experience of, Prudence also is not to be esteemed philosophy (Hobbes 1845: Vol I: 10).

For evidence of impatience with objections from experience to conclusions reached in civil philosophy, we can turn to the end of chapter twenty of *Leviathan*. Here Hobbes has just reached the conclusion that ‘the Sovereign Power, whether placed in One Man..., or in an Assembly of men,... is as great, as possibly men can be imagined to make it’ (Hobbes 1991: 144). In other words, according to Hobbes, people who contract together for protection from one another and from external conquest agree to as great a protective power as possible, that is, a power not limited by any other local power. He then considers what might be said against this conclusion:

The greatest objection, is that of the Practise; when men ask, where, and when, such Power has by Subjects been acknowledged... But howsoever, an argument from the Practise of men, that have not sifted to the bottom, and with exact reason weighed the causes, and nature of Commonweaths, and suffer daily those miseries, that proceed from the ignorance thereof, is invalid... The skill of making, and maintaining Commonwealths, consisteth in certain Rules, as doth Arithmetique and Geometry; not (as Tennis-play) on Practise onely (Hobbes 1991: 145).

By 'practise' he means, action recorded by civil histories. Since philosophy as Hobbes defines it is independent of history, and since, in particular, he explicitly denies that civil philosophy is to be drawn from the political practices of the past, there is something jarring about appeals to experience in Hobbes's own statement of his civil philosophy.

But apparently he does appeal to experience. For example, in the passage already cited from *De Corpore*, chapter six, section seven, in which he describes how by analytically connecting 'just', 'fact against 'law,' 'command of someone who has sovereign power,' and so on, one

may at last come to this, that the appetites of men and the passions of their minds are such that, unless they be restrained by some power, they will always be making war upon one another (Hobbes 1845: Vol I: 74).

Hobbes immediately adds,

which may be known to be so by any man's experience, that will but examine his own mind (Hobbes 1845: Vol I: 74).

Is he not here appealing to experience, contrary to what scientific reasoning is supposed to allow? Not exactly. There is a chain of reasoning in his political writings leading to the conclusion that people are warlike, and this conclusion is supposedly *confirmed* by introspective experience. Introspective experience is not required to *reach* the conclusion. In the same way, there is a proof in plane geometry leading to

the conclusion that in triangles with equal sides the angles opposite those sides are equal: seeing a diagram of an isosceles triangle might make the conclusion of that proof independently plausible, but it is not a contribution to the relevant proof.

As we shall see, however, there are more substantial appeals to experience in his political writings. Should these be regarded as embarrassing departures from his official philosophy of science? I shall suggest that they reflect Hobbes's attempt to fuse civil philosophy with rhetoric. He wants a civil philosophy that shows the generation of a body politic and simultaneously teaches subjects their duties. This involves an imaginative dissolution of the body politic, i.e. an imaginative dissolution of a system of authority and subjection, intended to reveal a purpose for a body politic that citizens, including readers, could endorse. But for this purpose to win endorsement people have to acquire possibly painful self-knowledge: that human beings are naturally warlike. What is more, the fact of human bellicosity has to be entered into imaginatively, that is, by responding passionately to the war of all against all that the state would degenerate into if political authority disappeared.

Hobbes's civil philosophy is an attempt to activate that self-knowledge through argument to a frightening conclusion. If this rhetorical strategy works, the habitual and grudging submission of his readers to political authority changes into consciously willing submission through the conception of the dissolution of authority.

II

Hobbes wrote three political treatises. The earliest, *The Elements of Law*, was written in 1640 and circulated in manuscript among royalists in Parliament. It was not published whole in Hobbes's lifetime, and its two parts—one on human nature and the other on the body politic – were eventually printed as separate books. A proper edition was prepared at the end of the 19th century by Ferdinand Tönnies (Hobbes 1994). It is striking that the Epistle Dedicatory to the work already shows that Hobbes is conscious of the methodological problems associated with a scientific politics. Science is supposed to be free from dispute; politics is inevitably controversial. So a

scientific politics is particularly ambitious. It seeks ‘to reduce this doctrine [of justice and policy] to the rules and infallibility of reason, and the only way of doing so is ‘first, to put such principles down for a foundation, as passion not mistrusting may not seek to displace’. This could be the motto of all three of Hobbes’s forays into civil science. In each treatise he experiments with different rhetorics for reconciling reason with the passion-stirring subject matter of politics.

The format Hobbes chooses in the *Elements of Law* is that of the systematic treatise. Human nature is analysed into different capacities; certain exercises of those capacities are identified as ingredients of war; and then rules are adduced for counteracting those behaviours. It is unclear how the content of this treatise was appropriated by the royalist parliamentarians whom it was intended to help in debates.

The second of the three treatises appeared after Hobbes fled England for Paris in 1640, before the outbreak of the civil war. A small number of copies of *De cive* first appeared in 1642 and a second edition with amendments and replies to criticisms was issued in 1647. Although ostensibly addressed to anyone who wanted to know the rules of citizenship, its intended audience was probably a section of the Continental scientific community associated with the new “mechanical philosophy” and opposed to the scholastics. For this audience the method of the work and the novelty of its approach to politics were emphasized. Mersenne and Descartes were among the early readers of the work. *De cive* was intended to complete a trilogy called *The Elements of Philosophy*, the first two volumes of which – on body and on man – were largely unwritten in 1642. *De cive* has a claim to give the preferred scientific statement of his politics, and it is the book Hobbes has in mind when he claims, in the Epistle Dedicatory to *De corpore*, to have invented civil science.

Leviathan, the last of the three full-scale presentations of Hobbes’s politics, innovates significantly on *De cive* in its Parts One and Two, while also discussing at length, in Parts Three and Four, the preferred relation between political and ecclesiastical authority. Although it is the most intensely studied of Hobbes’s political treatises, its intended audience is not easy to identify. There are indications both in the text and in Hobbes’s act of presenting a copy of the book to Charles II, that it was intended to be used as a sort of guide to kingship.⁵

As our interest is in the relation of Hobbes's civil science to his philosophy of science, there are reasons to emphasize *De cive*, which is the most self-consciously scientific of the three treatises. But as Hobbes was interested from the *first* in the problems of establishing definitive conclusions in as controversial an area as politics, *The Elements of Law* is also relevant. And, as *De cive* was not Hobbes's final attempt at persuasive civil science, but was, on the contrary, overshadowed by the rhetorical *tour de force* one finds in *Leviathan*, all three works need to be taken into account.

What are the components of 'civil philosophy', according to the three works? I suggest at least the following, in typical order of presentation:

1. A taxonomy of human passions
2. Description of state of nature as a condition of natural equality with each being the rightful judge of what to do for his own survival and prosperity (the right of nature)
3. Equation of state of nature with state of war
4. Identification of the passionate ingredients in war (vain glory, 'diffidence')
5. Identification of passions inclining people to peace (fear and hope)
6. Statement of precepts guiding the will in making peace (laws of nature arranged in a particular order)
7. Statement of crucial law of nature – the second – requiring people to lay down the right of nature if everyone else does
8. Making peace conceptualized as mutual pact among a majority of co-located people to submit to a third party, who becomes sovereign
9. Theory of Rights of Sovereign
10. Submission conceptualized as unquestioning obedience to law of sovereign
11. Norms for law-making, enforcement

Material corresponding to each of these eleven elements is to be found in all three political treatises except *De cive*. *De cive* lacks (1), that material being assigned, in the context of Hobbes's trilogy, to *De cive*'s prequel, namely *De homine*. Hobbes makes the striking claim, however, that *De cive* is in a certain sense quite complete on its own:

And so it has come about that the part [of the trilogy] that was last in order has come out first; especially as I saw that it did not need the preceding parts, since it rests upon its own principles known by reason (Hobbes 1998: 13).

He is saying, in effect, that element (2) of the civil philosophy needs no introduction. It needs no introduction because – as we have already seen him insist – the makings in human nature of war are somehow intimated to us anyway – in experience.

De cive, then, is where we might look first for the sort of load-bearing appeal to experience in civil philosophy that Hobbes's own philosophy of science seems to make illicit. A first relevant passage is the following, from the Preface to the Readers:

Following such a Method [of deriving duties of subjects and rights of sovereigns from human nature], I put in first place, as a Principle, well known to all men by experience, and which everyone admits, that man's natural Disposition is such, that if they are not restrained by fear of a common power, they will distrust and fear each other, and every man may, and necessarily will, look out for himself from his own resources (Hobbes 1998: 10).

This is an announcement of what goes on in chapter 1. There Hobbes takes issue with the Aristotelian part-definition of *man* as a political animal.⁶ Man is *not* a political animal in the sense of being naturally sociable or seeking friendly association. Rather,

Men's purpose in seeking each other's company may be inferred from that which they do once they meet. If they meet to do business, everyone is looking for profit, not friendship. If the reason is public affairs, a kind of political relationship develops, which holds more mutual fear than love; it is sometimes the occasion of faction, but never of good-will. If they meet for entertainment or fun, everyone usually takes most pleasure in the kind of amusing incident... from which he may come away with a better of idea of himself in comparison with some else's embarrassment or weakness... [W]hat they primarily enjoy is their own glory and not society (Hobbes 1998: 22).

After giving many instances of back-biting and self-aggrandizing human behaviour that he expects his readers to agree are commonplace, Hobbes concludes,

It is true that the advantages of this life can be increased with other people's help. But this is much more effectively achieved by Dominion over others than by their help. Hence no one should doubt that, in the absence of fear, men would be more avidly attracted to domination than to society (Hobbes 1998: 24).

The conclusion that human beings are by nature *anti*-social, then, is supported solely by a series of worldly generalizations from experience. This means that Chapter One of *De cive* contains a substantial, not merely an ornamental, appeal to experience.

What is more, this appeal to experience supports an unflattering conclusion about human beings, a conclusion that human beings, including readers of *De cive*, would resist. He explicitly anticipates the resistance:

You will object perhaps that some deny [that in the absence of fear of a coercive power, people will distrust and fear each other]. That is so; many do deny it. Surely then I am contradicting myself, saying both that they admit it and that they deny it. No, I am not contradicting myself. *They* are, however, because they admit by their actions what they deny in their words... even within commonwealths, where there are laws and penalties against wrongdoers, individual citizens do not travel without a weapon to defend themselves or go to bed without barring their doors... Can men express their universal distrust of one another more openly? All commonwealths and individuals behave in this way, and thus admit their fear and distrust of one another (Hobbes 1998: 10-11).

We can distinguish between two senses of 'everyone admits' in 'everyone admits that human beings distrust and fear one another':

(A) Everyone judges and says that human beings distrust and fear one another

and

(B) Whatever they *say*, everyone *acts* as if they distrust and fear one another—they ride armed; they lock their chests at home even against their own family members

In sense (B) everyone's admitting something is compatible with a self-deceiving illusion or with slavish deference to Aristotelian formulae. The reason Hobbes is consistent when he says that people both admit and don't admit to fearing and distrusting everyone else, is that not admitting in sense (A) is compatible with admitting in sense (B). But Hobbes's pointing out what we admit in sense (B) is jarring, because we like to think that we are charitable and trusting.

To be persuasive in the face the possibility of collective self-deception Hobbes needs to defuse the implication that universal mistrust and fear are attitudes that only moral defectives extend to one another. He does defuse this implication. He says that people cannot be blamed for distrusting and fearing those who would dominate them in the state of nature, and those who would dominate in the state of nature cannot be blamed either—if they honestly judge that there is no way other than by domination of securing their own interests, their own interests in survival included. In practice the vainglorious want everything and dominate for that reason, while those who want no more than an equal share, try to dominate in an effort to pre-empt the domination of the vainglorious (Hobbes 1998: Ch.1, section 4).

III

Between *De cive* and *Leviathan* Hobbes departed from the form of argument we have just been reviewing. He argues from the scientific theory of human nature – not anecdotal data about supposedly typical human behaviour – to the inevitability of war. That is, he argues from the variety of 'manners', natural equality, scarcity and modestly distributed vainglory, to the inevitability of people exercising the right of nature violently. And he makes an appeal to a different sort of experience to confirm the inevitability of war. This appeal sits better with claiming that his political philosophy is based on reason. For it is a consequence of his scientific theory of human nature that introspective experience has some constant and some variable

features, and his argument confirms the argument for the inevitability of war with features of each reader's introspective experience that are constant.

The bearing of introspective experience on the reception of Hobbes' political doctrine is brought up in the Introduction to *Leviathan*. Hobbes associates it with a saying to the effect that wisdom is a matter of reading men, not books.

Nosce teipsum, Read thyself: which was not meant... to countenance the barbarous state of men in power, towards their inferiors; or to encourage men of low degree, to a sawcie behaviour toward their betters; But to teach us that for the similitude of the thoughts, and Passions of one man, to the thoughts, and Passions of another, whosoever looketh into himself, and considereth what he doth, when does think, opine, reason, hope, feare &c, and upon what grounds; he shall thereby read and know what are the thoughts, and Passions of all other men, upon the like occasions. I say the similitude of Passions, which are the same in all men...; not the similitude of the objects of the Passions... (Hobbes 1991: 10).

He goes on to say how a king reading *Leviathan* is supposed to combine the text with a special kind of self-reading:

He that is to govern a whole Nation, must read in himself, not this, or that particular man; but Man-kind: which though it be harder to do, harder than to learn any Language or Science; yet when I shall have set down my own reading orderly, and perspicuously, the pains left to another will be onely to consider, if he does not find the same in himself, for this kind of doctrine admitteth no other Demonstration (Hobbes 1991: 11).

Hobbes is describing *Leviathan* as a kind of systematic exposition of his own reading of mankind, which a sovereign reader of his book has only to check introspectively.

There are a number of difficulties with this passage. For one thing, it seems to conflict with what he says in Chapter 30, on the duties of a sovereign. The message of that chapter is in part that 'he who is to govern a whole nation' must read in himself a

whole *People*, that is, those who submit to him. He must identify with the interests of those who submit – attend to the *Good of the People* (Hobbes 1991: 239) rather than his own interests as an individual. But a People is not Mankind.

Cannot Hobbes have it both ways: insist on the need for the sovereign to identify with the good of a People *and* insist on the need for a sovereign to acquire systematic knowledge of human nature? I think there is no inconsistency here. It is true that in *Leviathan* Hobbes breaks methodologically from *De cive* by finding a use for *introspection* rather than a worldly third-person knowledge of human behaviour. The opening chapter of *De cive* works if readers find recognizable or true-to-life the back-biting, glory-seeking and pursuit of profit that Hobbes describes there. But

And though by men's actions we do discover their designe sometimes; yet to do it without comparing them with our own, and distinguishing all circumstances, by which the case may come to be altered, is to decipher without a key, and be for the most part deceived, by too much trust, or too much diffidence, as he that reads, is himself a good or evil man... (Hobbes 1991: 10)

In other words, we are unlikely to read others accurately unless we consider their behavior from other perspectives – including by comparison with first-person perspectives on our own behavior and reflection on counterfactual situations. If we fail to do this, our reading is likely to be unduly skewed by what we are like.

The limitations of third-person readings of human behavior do not end there. To return to the back-biting and glory-seeking described in chapter 1 of *De cive*, readers can find those things recognizable without believing that they themselves are driven by aggression or self-aggrandisement. Suppose I read Hobbes's description of the vainglorious and recoil, thinking that I am not like that, but suppose that this is self-deception, and I am in fact *quite* like that. Suppose it is also self-deception when I cast myself in the role of the unassuming person drawn into war by the need to preempt the attack of the vainglorious. That is my way of applying Hobbes's argument to myself without admitting that I am vainglorious. I avoid the self-examination that would reveal to me that I am activated by the desire for glory. Hobbes's conclusion –

that I have to avoid war – is nevertheless accessible to me. Despite my self-deceivingly believing that my involvement in war would only be forced upon me by the depredations of the vainglorious, I can see that there are a variety of passionate vectors leading to war.

Why is any more needed? Why do I need to identify the passions of the unassuming in myself or indeed the passions of any other character-type in myself? In other words, why is *self*-reading supposed to be necessary in my learning the lesson that war is latent in human nature? Why can't I leave open the question of which passions *I* have and simply believe that I am likely to have some that in combination with vainglory in other people will give me a reason for aggression? *Leviathan* tells me that everyone feels passions that can lead to war, even if everyone does not feel the same passions, or the same passions for the same things: the reason is that different combinations of a great variety of human passions can lead to war when people with different psychological constitutions interact. And it is the irresistibility of the conclusion that there is a latent war of *all against all*, not a latent war of *most against most* or a war of *most against some* that Hobbes has to reach. Why must this conclusion be reached with introspective confirmation?

Hobbes has a simple answer if we assume that first-personal psychological confirmation is not to accompany a reader's reception of the *general* argument for war but only the reception of descriptions of behavior that unembarrassingly confirm everyone's distrust of other human beings. In chapter 13 of *Leviathan* he writes,

It may seem strange to some man that has not well weighed these things; that Nature should thus dissociate, and render man apt to invade, and destroy one another: and he may therefore, not trusting to this Inference, made from the Passions, desire perhaps to have the same confirmed by Experience. Let him therefore consider with himself, when taking a journey, he arms himself, and seeks to go well accompanied; when going to sleep, he locks his doors; when even in his house he locks his chests. Does he not there
As much accuse mankind by his actions as I do by my words? But neither of us accuses man's nature in it. The Desires, and other Passions of man, are in

themselves no Sin. No more are Actions, that proceed from those Passions, till they know a Law that forbids them... (Hobbes 1991: 89).

He is inviting his readers to summon up the memory of passions they feel when they take customary (and therefore blameless and unembarrassing) precautions against robbery and pilfering. Honest recall is supposed to be enough to satisfy the requirements of reading oneself. Hobbes even disarms the inclination to criticize oneself for distrust. This, then, is the painless operation of the method of reading oneself.

In the passage just quoted actual experience is invoked. But it is at least arguable that the method of reading oneself can also be applied through imagination. This is what happens when Hobbes conjures up for readers who have never known the war of all against all, what it would be like:

In such condition, there is no place for Industry; because the fruit thereof is uncertain; and consequently no Culture of the Earth; no navigation nor use of the commodities that may be imported by Sea; no commodious Building; no Instruments of moving, and removing such things as require much force; no knowledge of the face of the Earth; no account of Time; no Arts; no Letters; no Society; and which is worst of all, continuall feare, and danger of violent death; And the life of man, solitary, poor, nasty, brutish and short (Hobbes 1991: 89).

A reader who enters imaginatively into this extremely famous passage will presumably feel some of the passions elicited by a disruption of the supply of comfort-creating goods, not to mention fear of violent death. And this is a way not only of reading oneself so as to confirm Hobbes's inference, but of becoming *motivated* to avoid war. This is more than following the argument without becoming offended by its depiction of human nature. It is a way of becoming inclined or disposed to find out how to avoid war and to take the necessary steps. In this way the science of human nature is going to produce action and not only understanding. Or, in other words, Hobbes's theory of the appropriate reception of his inference from the passions to war shows that his civil science is a fusion of reasoning with rhetorical

power, or the power to elicit appropriate action. Hobbes' civil science is not just supposed to reach its conclusions soundly but is supposed to reach practical conclusions.

IV

Before making clearer how the appeal to experience in *Leviathan* differs from the appeal to experience in his other political writings, I have to address a problem in Hobbes's use of what I just called the extremely famous passage, namely that he does not expect his readers to recognize from experience the kind of war that means the end of all good things and the concentration of bad things. Apart from those early readers of *Leviathan* who would have experienced the English civil war,⁷ Hobbes does not take it for granted that his audience will accept his picture of the inconveniences of war. On the contrary, he immediately entertains the objection that 'there was never such a time, nor condition of war as this' (Hobbes 1991: 89). If correct, this objection would show that Hobbes was appealing not to experience in describing the inconveniences of war, but to a sort of pure imaginative invention. But Hobbes denies this, citing two historical phenomena to show that the war of all against all has existed.

The first embodiment of all-out war that Hobbes cites is the life of American native people in the 17th century. These people, he claims, lack all the arts and sciences and are social, economic and technological primitives, lacking in addition all large-scale government. The second contemporary example that Hobbes cites is international war over the ages. Nations are in as much of a condition of non-government as native American Indians are, or at least as families of them are. The problem with this example is that it is compatible with the local or domestic *absence* of conflict, as well as the absence of its characteristic miseries. In other words, though it is a real and contemporary example of the war of all against all, it does not inspire fear. A parallel problem afflicts the war of all against all among native North Americans. Although that example too is of actual contemporary life, it is of deeply alien and distant human life, unlikely to register with English readers as reasons for *them* to submit. This leaves only recent experience of domestic civil war as an appropriate thing to appeal

to. It is plausible to claim that this experience would both have seemed vivid and appropriately fearful to contemporary readers.

I now turn to the distinctiveness of the appeal to experience in *Leviathan*. Not everything about it is new. For example, the reminder to readers that they lock chests and ride armed is not. It is in *De cive*. The 1647 edition adds to the anecdotal description of anti-social behaviour in chapter 1 a note about the sense in which mutual fear is at the source of human social arrangements. The first readers of *De cive* objected that societies were *not* built on fear:

The objectors believe, I think, that fearing is nothing but being actually frightened. But I mean by that word any anticipation of future evil. In my view, not only flight, but also distrust, suspicion, precaution and provision against fear are all characteristic of men who are afraid. On going to bed, men lock their doors; when going on a journey they arm themselves because they are afraid of robbers. Countries guard their frontiers with fortresses, their cities with walls, through fear of neighbouring countries (Hobbes 1998: 25).

This directly anticipates the appeal to experience that confirms the inference from the passions in *Leviathan*.

What *is* new in *Leviathan* is the fear-inducing description of all-out war and the identification and exploitation of the passions of hope and fear for motivating people to pursue or keep the peace. Neither of the earlier treatises employs these devices. *De cive* acknowledges the *operation* of fear in submission to government, but it does not *activate* that fear in the justification of submission. Nor does it have devices for taking the sting out of the unflattering descriptions of human behaviour that are used to win the admission of human unsociableness. People who do not recognize, or refuse to recognize, what is unsociable or aggressive in themselves, will not necessarily be persuaded that government is the answer to the threat of violence emanating from a communal life that includes them.

What about Hobbes's point that people's defensive behaviour belies their protestations of their own and other people's peaceableness? This claim is actually

disputable. For the fact that many people lock their doors and chests and ride armed does not mean that they distrust *all* human beings or that they believe *mankind* has violent and ruthlessly acquisitive tendencies. Instead, using locks and riding armed may express belief in the existence of an untrustworthy but so far unidentified local minority. In other words, I may believe that only a few others around me mean to rob me, but not knowing who or where they are, I place locks on my goods that keep everyone out – people I trust as well as strangers. Indiscriminate prevention of robbery does not, however, express the view that everyone around me, let alone everyone full stop, is out to rob me.

Hobbes needs a general conclusion – all human beings living together are naturally in conflict – that can explain and be confirmed by experience, and that can motivate people to make or keep the peace. The general conclusion cannot be *established* by experience, for experience ‘concludeth nothing universally’: it needs to be established by an argument couched in general propositions – a piece of science. *De cive* provides an indirect argument, by providing counter-examples to the Aristotelian dictum that human beings are sociable, that they are political animals. But it leaves between the lines the costs of conflict and the fact that the conflict has no natural limits. So *De cive* does not necessarily equip itself to persuade otherwise rebellious readers why they should keep the peace. It runs the risk of failure to persuade even though the task of persuasion is given top billing in the Preface to the Readers (Hobbes 1998: 13).

Leviathan supplies the general conclusion, the general reasoning leading to it, *and* the motivating or passion-stirring picture of the horrors of war and the benefits of peace that war eliminates. It does not claim that everyone is warlike because everyone is greedy or vainglorious. It says that people have a variety of psychological characteristics and that the moderate and self-disciplined can be drawn into war by the threat to life posed by the greedy and vainglorious, by natural scarcity, and by the fact that everyone is naturally their own judge of what means and ends to adopt for safety and prosperity.

Parts One and Two of *Leviathan* up to a point recapitulate *The Elements of Law*. In both books there is an anatomization of human nature into volitional, cognitive and linguistic capacities, and an argument identifying some elements of human nature as

ingredients of war. Chapter 14 of *The Elements of Law* corresponds in this respect to Chapter 13 of *Leviathan*. In place of the ‘extremely famous passage’ in *Leviathan* about the incommunities of war and the life of man ‘solitary, poor, nasty, brutish and short’, *The Elements of Law* contains the following:

The estate of hostility and war being such, as thereby nature itself is destroyed and men kill one another (as we know also that it is, both by the experience of savage nations that live at this day, and by the histories of our ancestors, the old inhabitants of Germany and other now civil countries, where we find the people few and short lived, and without the ornaments and comforts of life, which by peace and society are usually invented and procured): he therefore that desireth to live in such an estate, as is the estate of liberty and right of all to all, contradicteth himself. For every man by natural necessity desireth his own good, to which this estate is contrary (Hobbes 1994: Ch. 14 s.12, p. 80).

Here the irrationality of *wanting* to be in the state of war, rather than the extreme fearfulness of *being* at war, is supposed to establish the desirability of peace or submission. By contrast, the famous passage from *Leviathan* is much more powerful rhetorically without being any the less the conclusion of a scientific argument. Again, *The Elements of Law* was composed before there were home-grown experiences of out and out war. It has to settle for allusion to histories and accounts of travellers and traders returning from North America.

V

I have been trying to reconcile Hobbes’s hostility to appeals to experience in science with his developing a science of politics in which he appeals to experience. The key to the reconciliation is the fact that the science of politics was from the start conceived as a persuasive science, that is, as a science intended to be addressed to citizens with a tendency to resist and resent the demands of government. There is no tension between

persuasion and various kinds of appeal to experience, including appeals to experience intended to make certain states of affairs hopeful or fearful.

Hobbes also described the science of politics as an inference to the generation of a certain kind of artefact. He conceived the body politic as an artefact composed of its makers and kept together by a continuing act of submission for the purpose of individual security. The artefact could be understood scientifically as the product of following rules, starting with the foundational rule of making peace by laying down rights. The role of a science of politics was not only to reconstruct the powers of government and the duties of subjects as fulfilments of these rules. It was also to produce, for readers of his book, motivation to obey (if a reader was a subject) or govern (if the reader was a sovereign) according to the rules. In each case nothing less than survival hangs on following the rules. Certain kinds of appeal to experience make what is at stake vivid, and this is not incidental to a persuasive civil science.

The appeals to experience in Hobbes's civil science are not the only things that close the distance between him and experimental philosophers. There is also the fact that the science of the commonwealth is bound up with *acting on* the matter of the commonwealth. What makes for the integrity of the commonwealth is not only the uniformity of submission and its being directed at a single sovereign through compliance with his rules: it is also the continuity of submission in the face of the inconveniences of government, and keeping in mind that government does no less than secure one's life. The persuasive character of Hobbes's civil science counteracts the impressions of inconvenience and directly maintains the commonwealth—it does not just cater for our wish to know, for all bodies, what the causes of their properties are.

In natural philosophy Hobbes was much less wedded to acting on kinds of matter under investigation. For example, *Dialogus Physicus* is an exercise in countering a host of hypotheses invoked by Boyle to explain a wide variety of effects associated with an air-pump and valved, spherical receptacles. To the suggestion from Boyle that air pumped out of a sealed container created a vacuum, or that mercury in a glass tube apparently empty at the top could be made to rise by the addition of mercury to a dish at its base, Hobbes offered redescriptions of the phenomena consistent with the

hypothesis of a plenum. Pumping did not really evacuate a sphere, for example, and many effects with the air pump were conceivably the products of simple circular motion, the kind of motion that returns a body and its parts to their original position.

The disagreement with Boyle has sources in both Hobbes's philosophy of science and in his politics. First, according to Hobbes, natural phenomena underdetermined their explanations: as he says at the very end of *De corpore* (Hobbes 1845: Vol I: 531 & Vol VII: 3), more than one cause can be assigned to virtually any observed effect. This makes physics less certain than geometry, less certain even than civil science. In the latter cases, human beings produce the effects – geometrical figures and bodies politic and actually endow those objects with their properties. The only person to have maker's knowledge of natural effects, on the other hand, is God. Everyone else, the human physicist included, has to infer causes that are consistent with and more general than the effects, and rival causes can be assigned, as the *Dialogus Physicus* illustrates.

It might be thought that effects produced under relatively controlled conditions with relatively simple experimental equipment are also open to a kind of maker's knowledge. Does not the operator of the equipment produce and so have maker's knowledge of e.g. the causes of rises and falls of liquids in tubes after pumping actions? But this is what Hobbes denies. The equipment is made up of materials whose effects both separately and when combined themselves require physical explanation. For example, if conceivably there is no genuinely air-tight apparatus, because the materials allow for the penetration of minute particles, then the use of the terms 'empty', 'vacuum', 'evacuated', 'fluid', 'heavy', and 'suffocation' to describe the phenomena can be question-begging.

The connection between *Dialogus Physicus* and politics lies in the practice of expert witnessing of experiments by members of 'academies'. Hobbes contrasts the audience for Boyle's experiments with the 'academy' he had known in Paris, and whose impresario was Marin Mersenne (Hobbes 1985: 351). In the Parisian academy, as Hobbes describes it, discoveries could be explained to a critical but open-minded audience. In the case of Boyle and the Royal Society, on the other hand, animus toward investigators could be based on extra-scientific considerations or on small-

mindedness. In the Epistle Dedicatory of *Dialogus Physicus* to Sorbière (Hobbes 1985: 347-8), Hobbes reports that a mathematical demonstration of his that he himself had discovered was mistaken was ceremoniously 'refuted' by people in the circle around Boyle, even though Hobbes was no longer putting it forward. He complains further that many or all in the Royal Society are his enemies (Hobbes 1985: 347).

Later, in the actual text of *Dialogus Physicus*, after Hobbes's mouthpiece, A, has proposed that the structure of air should be modelled on the structure of compressed wool, he uses the hypothesis of the simple circular motion to explain how wool regains its shape after compression.

A. Thus, the parts of each aerial corpuscle were moved apart by returning into themselves with that motion, before which that corpuscle would have been made up of those smaller ones

B. It cannot be made otherwise

A. Do not your Fellows also think so?

B. Perhaps one or another, but not the rest

A. I believe you. For this motion of restitution comes from Hobbes, and is first and solely explained by him in the book *De corpore*, chap. 21, art. 8. Without which hypothesis, however much work, method or cost be expended on finding the invisible causes of natural things, it would be in vain. You now see that this spring of the air that they suppose is either impossible or they must have recourse to the Hobbesian hypothesis, which because perhaps they have not understood, they have rejected (Hobbes 1985: 358)

The strong implication of this and other passages is that the hypothesis was rejected because Hobbes had proposed it, rather than on account of evidence of its being defective. Here was common or garden prejudice or perhaps political disagreement translating itself into scientific disagreement or even ostracism. To the extent that experimental philosophy involved an 'academy', and to the extent that the activities of an academy could be the conscious or even unwitting expression of enmity, it was an instrument of controversy and conflict. The Parisian 'academy' was something

else: a society for hearing ‘demonstrations’ often worked out in private following a method that excluded controversy (Sorell 1986: 43-54).

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Notes

¹ He was dismissive of 'chymists and mechanics' and the work that had fed manuals, almanacs and natural histories. See (Sorell 1986: 5).

² All references to *Leviathan* are to the Tuck edition (Hobbes 1991).

³ Bacon's *Historia naturalis et experimentalis* speaks similarly of natural history as providing 'the right timber and material' for the *Organum* (i.e. for natural philosophy). See (Bacon 1996: 13). I am grateful to Alberto Vanzo for this reference.

⁴ References are by volume and page number of the Molesworth edition of Hobbes's *English Works* (Hobbes 1845).

⁵ Or perhaps the acquisition of kingship. On the bearing of arguments in *Leviathan* on decisions that had to be made by Charles II on how to re-assert sovereignty with the co-operation of the Scots, see Noel Malcolm's Introduction to the critical edition of *Leviathan* (Hobbes 2013: Vol 3: 25-35). In general, Malcolm agrees that *Leviathan* was intended to be read specifically by Charles II (Hobbes 2013: Vol 3: 51), and that, although the composition of the book was already in progress before that, events in 1649 made certain arguments in it particularly timely, notably those about the impossibility of granting powers essential to sovereignty identified in chapter 29.

⁶ It is a delicate question whether Grotius disputed the definition before Hobbes. In the Prologue to *The Law of War and Peace*, Grotius claims that human beings are sociable, but in an importantly unAristotelian style. Sociability in Grotius's sense is voluntary and up to a point artificial, not natural; it also co-exists with natural mutual fear and the latent threat of violence (Grotius 2013). Richard Tuck has insisted that Hobbes is indebted to Grotius. See (Tuck 1998; 1983; 1982; 1987). Tuck's interpretation associates Hobbes with what he calls "post-scepticism", an interpretation I have strongly rejected previously (Sorell 1993).

⁷ The widespread damage and dislocation associated with the war is described by Stephen Porter in *The Blast of War* (Porter 2011).