

## *Listening to the Sources in History (Especially History of Science)*

John A. Schuster<sup>1</sup> PhD

### 1. Historical Listening and Interpretation:

What kind of listening is done by historians? I want to suggest that, odd as it may seem at first sight, historians are, and must be, very careful listeners. As we shall also see, however, there are some specific characteristics of historians' listening that set it apart from other species of careful, best practice listening. I shall illustrate this using the practices of historians in my own specialty, history of science, or more generally intellectual history. In my field, the demands and pitfalls of historian's listening come into particularly clear view.

Before we start, I must readily concede that there are times and places where the professional historian is engaged in listening that is for all intents and purposes identical to what might be called best practice listening in everyday life. This happens when historians interview subjects or study audio or audio-visual sources. Even if actual conversation is not involved in the latter cases, at least the historian is in the virtual presence of another speaking, and perhaps gesturing human being. Additionally, historians engage in real time conversations and debates with each other, which express and modify their published findings about historical issues. These interactions place demands upon them for good listening that are just the same as for other humans engaged in similar interactions. It is not these variations of the genus 'everyday conversational listening' that interest me here. Rather, I am concerned with historians studying or reading, or as I shall suggest, 'listening' to primary sources, materials produced in the past by the individuals whose actions and beliefs are under historical study. My own field of history of science, and related species of intellectual history, are exemplary fields in which careful 'listening' to what historical figures have 'to say' are crucial to satisfactory practice.

People, including historians, especially younger students of history, often think of primary sources as evidence in a simplistic sense, conveying by means of literal reading, hard facts about the past to a passively receptive collector of such facts, the historian. The great English philosopher of history, R.G. Collingwood, termed this view of historical practice the 'scissors and paste' approach, as though it were the case that crisp, clear and graspable facts about the past are contained in primary texts, leaving the 'objective,' well trained, and unbiased historian the task of assembling well chosen, relevant facts into an arguably correct linear temporal order.<sup>2</sup> Of course nobody the least informed about issues concerning listening (or reading!) believes this, and certainly Collingwood did not. As a close student of hermeneutics and idealist philosophy, he taught, as we do today, that interpretation is always involved on the part of the reader/listener.<sup>3</sup>

For Collingwood, what this meant in detail for historians' practice was this: the challenge is to reach the point of being able to 're-enact the experience' of historical actors; that is, as it were, to re-experience their thoughts on their own terms.<sup>4</sup> This notion has its problems and has been much discussed. Below I shall modify Collingwood's notion quite a bit in sketching what I believe is involved in historians' mode of interpretation—our manner, that is, of listening to primary texts. But Collingwood took a large step forward, teaching historians of his generation what many philosophers and hermeneutists had already grasped. As I shall note below, he was joined by contemporary figures in my own field who productively applied similar ideas about interpretation to the problem of understanding the historical dynamics of science, especially the

---

<sup>1</sup>Unit for the History & Philosophy of Science, and Sydney Centre for the Foundations of Science, University of Sydney; and Campion College, Sydney.

<sup>2</sup> R. G. Collingwood, *The Idea of History* (1946), 269-70

<sup>3</sup> On this see my open access textbook, John A. Schuster, *The Scientific Revolution, An Introduction to the History & Philosophy of Science*, chapter 2 "Historians and Historians of Science Face the Facts", on my website [http://descartes-agonistes.com/index.php?option=com\\_docman&task=cat\\_view&gid=38&Itemid=53](http://descartes-agonistes.com/index.php?option=com_docman&task=cat_view&gid=38&Itemid=53) ; Also chapter 2 in the Mandarin translation of same: John A. Schuster [2013d] *科学革命: 科学史与科学哲学导论*. (上海科学技术出版社, 上海) 520pp. + 129 figures. ISBN 978-7-5428-5670-8 [*The Scientific Revolution: Introduction to the History & Philosophy of Science*. Trans. An Weifu (Shanghai Scientific and Technological Education Publishing, Shanghai)]

<sup>4</sup>Collingwood (1946) pp.282-301.

process of major theory change.

Looking beyond Collingwood's suggestion, therefore, and accepting that some frame(s) of meaning are always deployed by the historian/reader in relation to primary texts, the issues become:

- [1] what do we mean by interpretation;
- [2] what tools and techniques are involved;
- [3] do different types of reading/listening demand slightly different types of such tools and techniques; and
- [4] because interpretation is always involved in historical practice, what marks out poor, biased or incompetent interpretation and what marks out, in any given type of case, superior interpretation?

It turns out that one of the best ways to answer questions like these is to focus on the matter of biased or prejudiced interpretation (which of course will map onto what we might come to term poor or unsatisfactory 'listening' in history). First of all, note that in the mythical world of 'scissors and paste' history (where universally agreed facts are supposed to leap out from primary texts to those happy historians who are 'objective') the category of biased interpretation is simply a rhetorical football. Nobody actually has access to these 'facts' in texts, but anyone can prop up his or her own (unacknowledged) interpretations by accusing others of biased reading or incompetent listening to those same texts. This simply will not do. Our self-proclaimed objective historians, claiming to have no truck with interpretative frames whatsoever, easily blame all of their opponents' 'errors' or 'biases' on the fact that their opponents possess interpretative frames—and are victims of that circumstance—while our unbiased heroes dispense with interpretation altogether. In a related manner, because there certainly are cases of gross bias and/or incompetence in historical work, this fact of human frailty can feed the deeper myth of the possibility of purely objective reading/listening in history.

The more interesting and certainly more important issue about bias comes after one fully grants that all historical listening take place within frames of meaning already possessed by the historian. It is here that one can appreciate more nuanced points about genuinely bad, misleading and unfruitful modes of interpretation and what, in general, separates them from modes of necessarily interpretive historical listening that are likely to be fruitful and enlightening about the past.

## 2. 'Whiggish' Interpretation of History :

The historical profession possesses one well worked out example of what poor interpretation might be. This pathology has been detected in both political history and in my own field of history of science and has the interesting property that it is not *prima facie* wrong. Indeed, it has been seen as quite persuasive and is widely granted a hearing today, at least amongst those who have not studied history in any detail. This fascinating form of culturally conditioned biased interpretation is called 'Whig History.' Learning about it can take us into the heart of what good historical listening actually involves.

Although any well trained first or second year university major in history should know about it and how largely to avoid it, Whig history is often taken in wider circles for what historical inquiry is or should be about—explaining the content and purpose of historical inquiry. If it were acceptable, it would more or less define what it is to 'listen' to historical texts for many non-historians it unfortunately still does.

Back in the 1930s, the famous British historian Sir Herbert Butterfield coined the label 'Whig history' to criticize the smug view of history held by followers of the Whig party in 19th century Britain.<sup>5</sup> Viewing themselves as the very pinnacle of religious toleration and political enlightenment, the 19<sup>th</sup> century Whigs, such as the brilliant Lord Macaulay, wrote British history as a 'just so' story leading directly to themselves. To the Whigs, religious toleration meant toleration of most Protestants (but not Catholics); perhaps Westernized, emancipated Jews but not atheists; Hindus, Buddhists, or Muslims. To the Whigs, political enlightenment meant a constitutional monarchy in which middle class gentlemen could vote and sit in Parliament, but not women, male workers, immigrants, colonized peoples, etc. Earlier historical figures who could be seen as similar to the later Whigs became good guys, advancing the goal of Whig enlightenment. Those seen as opposing such good guys automatically became bad guys, because they supposedly obstructed

---

<sup>5</sup>Herbert Butterfield, *The Whig Interpretation of History* (1931). For a textbook treatment, suitable for beginners, extending the discussion to Whig History of Science, see the textbooks cited above, Note 2, chapter 2, 'The Problem of the Whig History of Science'.

the progress of Whig ideas.

So, any earlier Protestant was a good guy, any earlier Catholic was a bad guy. For example, consider an early Protestant like John Calvin, the theocratic ruler in Geneva who had no qualms about burning those he adjudged to be 'heretics'. Calvin was seen by Whig history as a good guy, a forerunner of the nice tolerant Protestant gentlemen of the 19th century, because he was a Protestant—but in his time that was nonsense. Similarly, many 16th century Catholics were quite tolerant, but in Whig history they were seen as intolerant and biased, because they were Catholics. So, Whig history judged historical figures according to whether they seemed to favor or oppose the ideas that would only appear hundreds of years later, in 19th century Britain. Butterfield said this made 19th century Whig values the measure of all past people and actions—it therefore took historical figures out of their own social and intellectual contexts; it tore them out of the historical situations in which their viewpoints and actions made sense; and it then reconstructed these figures in some kind of mythological way, in terms of what struck a 19th century Whig historian as good or bad. Now, that is not the way to understand how history unfolds. Whig history distorts the start of any process under study, and the process itself, leading back to the present.

Although Whig history wants us to be on the side of its particular 'good guys,' and to reject and condemn its particular 'bad guys,' do we need to be on either side? Was the debate in the 16th century a debate between good guys and bad guys, especially when good and bad were defined in the terms of a 19th century English Whig gentleman? The answer is, of course not! Whig history imposes some selection of 'present' values upon the past and misses the specific, historical characteristics of people in the past; that is, their actual ideas, values, aims and viewpoints.<sup>6</sup>

We can generalize beyond what the 19<sup>th</sup> century Whigs thought in this way: *Whig history in general is any story of progress to somebody's present, with 'good guys' being blocked by 'bad guys,' 'good' and 'bad' in the past being defined by what that somebody thinks is 'good' and 'bad' and 'true' and 'false' in his present.* Notice that each version of Whig History depends on where the 'present' is for the historian who is telling the Whiggish story.<sup>7</sup>

### 3. Whiggish Listening in History of Science :

It goes without saying that the history of science traditionally provided a warm and cozy home to Whig historians, given the modern idea of progress is itself largely predicated upon rather simplistic readings of the trajectory and nature of modern Western science. Here is a simplified little story, which I often used in teaching, that captures a core bit of Whig history of science.<sup>8</sup>

*In medieval Europe, even the best educated individuals were mired in religious superstition. They believed that the earth is at rest in the center of the universe and that the sun and planets revolve around it. Luckily for us a few brave and rational individuals, led by Nicholas Copernicus (died 1543) and Galileo (died 1642) fought against this superstition. Using clear, rational argument and precise observations they established that the earth moves, that it goes around the sun. The superstitious and the ignorant all fought against this, using quite dirty political means, but in the end the followers of Copernicus and Galileo won, and in the 350 years since then modern science has filled in the details confirming this view.*

That was a common tale in history of science writing up through the second generation of the 20<sup>th</sup> century, and one still hears versions of it in simplistic books or documentaries. Note that in this story progress is simple and linear, and that there are all benefits and few costs in the triumph of progressive views.

---

<sup>6</sup> "The issue between Protestants and Catholics in the 16th century was an issue of their world and not of our world, and we are being definitely unhistorical, we are forgetting that Protestantism and Catholicism have both had a long history since 1517, if we argue from a rash analogy that the one was fighting for something like our modern world while the other was trying to prevent its coming." Butterfield (1931) pp.36-7.

<sup>7</sup> Today our sour, confused culture has a new twist on Whig history—'inverse Whig' history (a term I myself coined and started using back in the early 1990s): it is the story of decline and decay of Western society. It purports to narrate how 'good' people in past were defeated by 'bad' people, forerunners of terrible baddies in control now. Thus, we have not a story of progress but of decay. Some environmentalist histories or stories are like that; some feminist ones are too—there was a golden age of feminism or environmental consciousness in the past, now lost to bad, evil interests.

<sup>8</sup> This was used in courses on an 'Introduction to the History and Philosophy of Science' by using the extended case of the Scientific Revolution of the 16<sup>th</sup> and 17<sup>th</sup> century.

Now, here are five claims that modern science certainly takes as true today. Let us ask whether these claims come directly from Copernicus and Galileo, and if they do not, what that means about how one should study the history of science.

- [1] The universe is infinite;
- [2] The sun is just a star, like other stars, and a rather ordinary one at that;
- [3] The planets go in elliptical orbits around the sun;
- [4] The sun and planets revolve around their common center of gravity, located near the center of the sun; and
- [5] There is a universal cause—either gravity (Newton) or the bending of ‘space-time’ (Einstein) – that explains most of the facts of astronomy and celestial motions.<sup>9</sup>

Now, if we ask ourselves on the basis of solid history of science writings of the last three generations, ‘How many of the five truths of modern science above did Doctor Copernicus and Signore Galileo believe in their time?’ —the actual answer is zero, not one of them! Yes, if you wish to be simplistic, and tendentious, Copernicus and Galileo did believe, just as we do, the Earth ‘goes around the sun,’<sup>10</sup> but in other respects they believed many things more like their opponents—such as,

- [1] the universe is finite,
- [2] the sun is a special body different from the stars,
- [3] planetary orbits are circular,
- [4] there is no universal cause operating both on earth and in the heavens, and
- [5] the earth rotates because it is natural for it to rotate, whatever that means.

Therefore, there certainly is something odd and wrong about our Whiggish story above. There is virtually nothing that Copernicus and Galileo believed about the structure of the universe, the nature of planetary motions and the behavior and orbit of the Earth, that, strictly speaking and exactly, we believe in today. So, looking at Copernicus and Galileo in their own terms, in terms of what they actually believed, they are not some great good guys who were making obvious and unquestionable strides in our direction. By the same token, when we study them properly, we find that experts in astronomy at the time who disagreed with Copernicus and Galileo were not fools. In fact, we learn that even fifty or sixty years after Copernicus died, at the time that Galileo was active, their opponents still had excellent, rational reasons for rejecting their theories as scientifically inadequate. In fact, the men who were way out on a limb were Copernicus and Galileo, and at the time they were rightly criticized by their competitors. Hence, we distort history when we say Copernicus and Galileo were simply good guys on the road to the truth, obstructed by bad guys who, ignorant or evil, did not want to take a step toward the truth. Indeed, Copernicus and Galileo, when viewed in their own times and contexts, were more like their opponents than they were like us today. This further suggests that perhaps Whig history also has misunderstood their opponents, the so-called bad guys. Thus, following Butterfield’s advice, the eventual triumph of Copernicanism with Newton over a century later, saw the triumph of a form of that theory amazingly different from the version Copernicus had taught, and the outcome was the result of a process of conflict and competition whose tenor and dynamics need to be carefully unpacked, rather than simplified and boiled down in a Whiggish tale.

It is clear, then, that Whig history of science is a form of quite pathological listening to the sources. In the manner of poor listening, one rushes to judgment about whether the historical actor is ‘good’ or ‘bad’, ‘right’ or ‘wrong’ according to categories and norms accepted in the present, and imposed by, the historian/listener. It is as though the Whig historian is censoriously rushing to a question which is purely rhetorical: the historical figure is asked, ‘Why were you so wrong’ (or right)? And the answers have little to do with what

---

<sup>9</sup> Note that this list is simplified for purposes of this argument.

<sup>10</sup> I put it this way because this is an oversimplification as well. Strictly speaking, since Newton, nobody has believed, in technical detail, that ‘the earth literally revolves around the sun’, rather the sun and all the planets revolve around the common center of gravity of the entire solar system, which happens to reside inside the sun. The simple gloss misleads us; the technical claim, contextualized to its time and place, lets us see that even in this we differ from Copernicus and Galileo—a fact what would be hidden from us without close technical and historical inquiry, but a fact easily missed by hasty Whiggish conceptualization.

the sources say, but rather with what the Whig historian has prejudged.

#### 4. Butterfield, Koyré and Kuhn: Beyond Whiggish Listening in History of Science?

After World War II, Butterfield turned his hand to history of science.<sup>11</sup> Finding most of the field rife with Whig history in the style described above, he wrote a small, widely appreciated, corrective book on the subject. But on this occasion he had help, because a few historians and philosophers of science, mainly influenced by late 19<sup>th</sup> and earlier 20<sup>th</sup> century neo-Kantian history of philosophy approaches, had already detected the disease, and part of its cure, in the history of science. Butterfield had become familiar with some of these experts. Foremost amongst these was Alexandre Koyré (1892-1964), who in turn exerted immense influence on the rising post-war generation of American historians of science, most notably, but not exclusively on the young Thomas S. Kuhn (1922-1996), who, for the record, was my own chief mentor in the field.<sup>12</sup>

Koyré, and all those who followed his historiographical technique, insisted—much as my little story about Copernicus and Galileo tended to show—that the historian unpack the actual theoretical commitments, and deeper grounding structures of thought, within which the scientists of the past worked. Koyré also stressed that quite often one could find an entry to these lost thought structures of the past by closely examining what we today might consider to be errors in the work of the historical subject. Listening to the historical figure from within something like his own frame of reference, the historian might just discover the key to how the past scientist was thinking and working. Kuhn often told the story of how when he was first starting to work in the history of science (he had been trained as a theoretical physicist), he had a moment of enlightenment when he realized that Aristotle, in his *Physics* (the guide to understanding physical processes up until the mid 17<sup>th</sup> century), was not making modern school boy mistakes, but was working with sophisticated conceptions of motion, place, cause, etc. that were particular to his own system and formed a coherent whole for interpreting and explaining everyday phenomena.

Trying to convey to graduate students how one accomplished these feats of historical insight/careful listening, Kuhn would often say that the primary sources need to be read ‘with all senses open.’ I recall that when he occasionally came down into our History of Science Graduate Student Study Room in the bowels of the Princeton Firestone Library, in order to pull down and study some primary source, Kuhn did indeed almost go into a reading trance—breathing deeply and regularly and paying no attention at all to his surroundings and even occasionally letting out a low sigh as he registered (or heard?) some particularly telling point or constructed a deep insight. So, it may be said that there are psychological and physiological aspects to good historical listening, and I have experienced them myself. But, this is very far from my main argument, because I am going to insist that what sets historical listening apart is precisely not these dimensions, which we can and should find in engaged, empathetic listening in everyday life.

#### 5. A Modern Toolkit for Historical Listening :

Consider that neither Kuhn’s admonitions; nor his and Koyré’s glosses on their own work; nor, indeed, the published results of their inquiries, could succeed in spelling out exactly what the accomplished ‘post-Whiggish’ historian of science was supposed to be doing when reading a primary source, or, as we might now say, when listening to an historical actor speak via a primary source. To tell us to ‘unpack the deep structure of thought’; ‘enter sympathetically into apparent errors’, or ‘to read/listen with all senses open’, simply does not convey what exactly is going on in this form of historical inquiry/historical listening. I suggest that now, three generations on from Koyré and his post-war acolytes, we in history of science do know quite a bit more about what that fruitful and productive listening to sources entails. This form of listening is quite specialized and is weighted heavily toward dry, dispassionate, rational deliberation and construction in the realm of cognition and forms of controlled, indeed well trained imagination, and away from the domain of empathy and emotional intelligence. Best practice every day listening certainly depends upon the latter; their roles, in my view, are much reduced in best practice historian’s listening. Other skills

---

<sup>11</sup>Herbert Butterfield, *The Origins of Modern Science* (1949)

<sup>12</sup> Alexandre Koyré, *Études Galiléennes*. Paris, 1939; English trans. *Galileo Studies*. Trans. J. Mepham. Hassocks, Sussex, (1978); Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 1962, 1970 and several later editions. My own work on Kuhn and Koyré includes, recently, John A. Schuster ‘The Pitfalls and Possibilities of Following Koyré: The Younger Tom Kuhn, “Critical Historian” on Tradition Dynamics and “Big History”’, to appear 2017 in *Homage to Alexandre Koyré*, R. Pisano and J. Agassi (eds.) Springer, Dordrecht. A pre-publication version appears in open access on my website <http://descartes-agonistes.com/> in the ‘Research’ section. Readers of this paper will learn, *en passant*, that Koyré and Kuhn, closely examined, practiced their own variant of Whig history even while they constantly and correctly berated the more well-known kind described above.

and actions take their place.

Now, if we swerve away from empathy and a grasping after some kind of psychological identification, it would seem that we are favoring an appeal to a first order picture of Gadamerian interpretation; that is, a situation involving ongoing conversational interaction, and various attempted creative and insightful ‘fusions of horizons’ of two or more living interlocutors, where those horizons tend to come from the same traditions of everyday life. It turns out, of course, that to specify historians’ listening more is needed. Important as it is for historians to avoid quick fix apparent empathy or amateur psychologizing, it is not quite sufficient simply to endorse something like a Gadamerian alternative and leave the matter there.<sup>13</sup> This is because the historian’s encounter with the tracings left by an historical actor is not a conversation in that everyday sense of the term; interpretation cannot proceed on that sort of unarticulated Gadamerian basis, and so the listening involved differs from everyday best practice. First of all, the horizons, traditions, life-worlds of the historian and the author of the primary text are likely to be very different. Secondly, the only active participant in the listening is the historian.

The demands and conditions of this listening, its tonality, is specifically different from that in a real conversation, especially between individuals whose life-worlds overlap in wide and significant ways. The historian cannot directly ask the historical actor what he believes about his social environment or his own life trajectory through it. Nor can the historian proceed to question the historical actor about the accuracy of his or his ‘interlocutor’s’ understandings regarding either of those issues. The historian might infer what the historical actor believed about them, or extrapolate from some comments, but as historians we need more if we are going to listen/interpret at all—and to repeat, the heuristic tips about interpretation left by disciplinary leaders such as Koyré and Kuhn are not sufficient. It turns out that the ‘something more’ that is needed are explicit yet revisable working models of the historical figure’s context(s) and of his own internal mental contents. Where do they come from?

As I have explained and illustrated in my own work in the history of science, there are three dimensions to the historian’s construction of the framework within which he listens to primary sources written by an historical actor in relation to that actor’s activities within one or another intellectual field:

- [1] the internal structures of thought and relevance attributed to the historical actor to whom we are listening;
- [2] the structure and dynamics of the intellectual or scientific field in which the actor worked (this is the proximate context of his thought and action in the matters under study by the historian); and finally,
- [3] the larger ‘macro’ contextual shapers and drivers of his thought and action.<sup>14</sup>

Of course, there are hermeneutical circles involved in historians’ constructions of these frameworks. They must have been exposed to other primary sources and to present and past historians’ accounts of the matters in question. There is evidence for these constructs, in appeals to primary sources and to the arguments of other historians that are considered, until further notice, acceptable bases for one’s own work (even if under conditions of slight or considerable modification). The well trained, experienced historian will have evolved to the position of being able to be quite articulate and self-aware about the kinds of frameworks he is asserting or assuming as he goes about his work of listening to primary texts. I have exemplified these dimensions in very detailed biographical work on the scientific and natural philosophical career of René Descartes, focusing, first, on his ongoing agendas, favored conceptions and self-images as a scientific practitioner (corresponding to [1] above); second, the nature of the pan European and rapidly changing field of natural philosophy in which he and other makers of the Scientific Revolution worked (corresponding to [2] above); and third, the possible wider contextual drivers and shapers of some of his gambits and claims within his natural philosophizing (corresponding to [3] above). To elucidate all these matters would amount

---

<sup>13</sup> This is not in any way to denigrate the view of hermeneutics that we can generally ascribe to Gadamer, Ricoeur and their respective followers; that is, a view that rightly takes a dim view of the ideal of ‘objective’ interpretation as reaching an identity of understanding of intentions between reader and author. On this see the lucid exposition made many years ago by John Stewart, ‘Interpretive Listening: An Alternative to Empathy’, *Communication Education* 32 (1983): 379-391.

<sup>14</sup> See John Schuster, *Descartes-agonistes: Physico-mathematics, Method and Corpuscular-mechanism 1618-1633* (2013), especially pp. 10-19, 35-70; and, criticizing the ahistorical theorizing of Bruno Latour, also John Schuster, ‘Bruno’s (No History Required) Tour of the Past’, 1989 Conference of the Australasian Assoc. for the History, Philosophy and Social Studies of Science’, on my website <http://descartes-agonistes.com/> in the category ‘Conference and Seminar Papers’.

to repeating much of the work just cited. Let me comment briefly on the three dimensions of interpretative framework and then make a few general glossing remarks about my practices in so far as they throw light on the topic of historians' listening to primary sources.

[1] In talking about the internal or mental contents of an actor, I am not speaking about reducing the actor to the object of some psychological theory or another. My own preferred tool kit for such construction comes from the traditions of phenomenological sociology in the manner of Alfred Schutz and Thomas Luckman (who also had a profound influence upon the work of the first generation of micro-sociologists of science who took off from the work of Kuhn in the 1970s and 80s). With Schutz and company, one is in the business of trying imaginatively to construe the structure of an actor's cognitive beliefs, as well as what they termed his structures of relevance and his manner of constructing his own identity and agenda (all of which of course may have changed over time).<sup>15</sup>

[2] In dealing with the proximate intellectual context of an historical figure—the fields or domains in which he thought and practiced—we need carefully to construct models of the structure and dynamics of the discipline, or disciplines, in question, as well as the modes of competition amongst players in the field at that time, and the rules guiding claim-formation and argumentation in the field at that time. The ways in which actors understood the relations amongst contemporary disciplines also needs to be included. Historians of science need to approach their research with some such models in mind of the sciences of the time. In my own work, dealing with Descartes and other participants in the field of natural philosophy (rather than science) as it then existed, I have had to construct such a model of what that field and its rules and dynamics were like. The trajectory of Descartes, his friends and competitors can then be inserted into that context, understanding always that the field was changing, in part due to his and the others' actions. To assess Descartes' agendas, priorities, concepts and self-image as a player in the field of natural philosophy, one must bring into play what one has made out about [1]. I have termed historians' models of intellectual fields 'iceberg' categories, because of their dual nature: The visible tips of such categories are actors' presumed understandings. The huge submerged bottoms are our own historian's constructions of the categories as traditions or fields, dealing with the dynamics of competition and rules of utterance in ways that go beyond what any contemporary actor knew or could have known. That is the nature of these categories. It is up to historian peers to evaluate and refine or reject such models.

[3] We come, finally, to the issue of the kinds of large contextual features, or drivers, that have often been taken to have simply forced historical actors to do or think certain things. These are the macro entities that used to figure in vulgar Marxist accounts of history (class, the state, hypostatized economic interests) or those used in today's historically illiterate PC complaining and name calling (e.g. racism, colonialism or any other solidified and simplified 'ism') in cultural studies and related, impoverished and highly politicized 'fields'. It is wrong and unnecessary to see such 'things' as imprinting or 'influencing' thought or agendas on historical actors inside living intellectual fields. We now know well how to deal with this problem. My own approach is based on insights of the anthropological theorist of cultural dynamics, Marshall Sahlins. He models cultures as dynamic historical entities in terms of their mechanisms of change and adaptation to exogenous and endogenous challenges over time. For him, cultures display specificity of response to outside impingement; they are not simply imprinted upon or pushed around.<sup>16</sup> I apply this kind of thinking to the category of natural philosophy. I see natural philosophy, in which Descartes and his contemporaries moved and worked, as a sub-culture in process, defined over time by the resultant of its players' combats over claims. Following Sahlins, I see natural philosophical 'natives' adapting to challenges and opportunities by

---

<sup>15</sup>Alfred Schutz (1970) *Reflections on the Problem of Relevance*. New Haven, Yale University Press, 1970; Alfred Schutz, and Thomas Luckmann *The Structures of the Life-World*. Trans. R. M. Zaner and H. T. Engelhardt. London, Heinemann, 1973.

<sup>16</sup>Marshall Sahlins, 'Goodbye to *Tristes Tropes*': Ethnography in the Context of Modern World History', *Journal of Modern History* 65:1-25. pp. 25,15. "[Cultural orders] reveal their properties by the way they respond to diverse circumstances, organising those circumstances in specific forms and in the event changing their forms in specific ways. Here, then, in a historical ethnography—an ethnography that extends, say, over a couple of centuries—here is a method for reconciling form and function in a logic of meaning, for discovering the relatively invariant and mutable dimensions of structures...the currently fashionable idea that there is nothing usefully called 'a culture'—no such reified entity—since the limits of the supposed "cultures" are indeterminate and permeable...paradoxically...misreads a cultural power of inclusion as the inability to maintain a boundary. It is based on an underestimate of the scope and systematicity of cultures, which are always universal in compass and thereby able to subsume alien objects and persons in logically coherent relationships." The leading historical sociologist of science, Steven Shapin, speaks in analogous ways of the various sciences as cultures in process in his important paper, 'Discipline and Bounding: The History and Sociology of Science as Seen through the Externalism-Internalism Debate', *History of Science* 30: 333-369.

their own culturally specific moves, and not by being imprinted, or influenced, by the grand contextual features of their time—the French state, the economy, the Catholic Church as an institution, the social structure, especially of nobles of the robe and of the sword.

The approach in handling ‘the causal role’ of such claimed macro drivers demands the following: Quite macro entities—social structure, economic forces, political structures and forces—can be brought into the explanatory machinery, but not in the form of causing, imprinting or influencing the ideas of actors.<sup>17</sup> Rather, natural philosophers responded to challenges and forces and decided to bring them into play in the form of revised claims, skills, material practices and values in the field. To do that, the ‘things’ being brought in had to be represented *to and by them (not us!)* in appropriate form. In my model’s terminology, a player had to *articulate* his natural philosophical claims upon some available representation of the ‘contextual’ or ‘external’ things of relevance and concern to him, his allies and opponents. The players do the acting; they are not forced, imprinted, influenced or caused to do anything by large scale contextual features, let alone such features as later historians model them. Rather, from a natural philosophical player’s perspective, available and appropriately thinkable/writable representations of things about contextual structures and features were intentionally mobilized, used, reshaped and deployed strategically in natural philosophical claims.

Our own models of the relevant macro structures and processes can therefore enter into our overall explanation, but not as drivers or printers of natural philosophical ideas. Rather, we historians use our knowledge or modeling of contextual structure and process to deepen our understanding of a given natural philosophical gambit. Such a gambit will initially be explained by appealing to the actor’s decisions to mobilize into natural philosophical utterance his representations of bits and pieces of the kinds of things we denominate as larger contextual features. We can then extend our understanding by locating the actor’s representations of those features, in a realm unknown to him in our form, but known to us through considered, evidence based, rational model building, that is, by framing our description of the situation with our models of the contextual features in play.

So, for example, Descartes was certainly a member of the class of the nobles of the robe, the administrative and legal nobility. But Descartes did not think about natural philosophy the way he did because he was influenced by the rise of the *noblesse de robe* of which he and his family were members. However, there is much about his own cognitive make up and self-understandings that arguably was sedimented through his experience in, and reflection about, the lives and training of many of his relatives and himself. We see him mobilizing bits and pieces of these available representations into his discourse in, and about, natural philosophy, for example in his autobiography in the *Discourse on Method*. Similarly, Descartes built the values of ‘utility’ and ‘progress’ in ‘domination of nature’ into his natural philosophizing. He was not ‘forced’ to do this by the rise of the commercial capitalist economy or centralization of the state, as vulgar Marxism would have had it, nor did these macro processes somehow magically imprint these ideas in his head. Rather he himself imbibed rhetoric and literature by others already representing things about the changing commercial and political situation of the time—a situation that we can model more deeply than any contemporary actor could. That is how Descartes thought about such things, and when he wanted to bring such wider considerations into natural philosophizing, he did not wait to be driven or impressed by macro contextual features. Rather he decided to mobilize certain representations for certain agendas and types of claims in natural philosophy. Again we are dealing with iceberg categories. Historians know much more about the structure and dynamics of the 17<sup>th</sup> Century French State or Economy than Descartes and his friends did. But once we historians have a grip on such models of these entities, we can understand the kinds of inscriptions and representations about the state and economy that Descartes and others did construct and exchange.

Such are the three dimensions of historian’s model or category construction so that he is in a position to interpret a primary source: listen to what it is saying. A few final remarks about this are in order:

---

<sup>17</sup> Note also that nobody is being naively essentialist about these macro-entities. Historians’ representations of them are also categorical constructions, woven out of relevant evidence, previously accepted claims, metaphors, and arguments. Historians must manufacture models of relevant aspects of context, proximate or distant. However, this no more means that these constructs completely lack real reference than that the theoretically couched objects of natural scientific inquiry do so as well. There was a French economy in the seventeenth century, and a French state. We know them through the evidence based, conjectural and revisable models we make of them—just as we model the proximate field of early modern natural philosophy beyond what contemporaries knew or could represent. We judge and revise those models in the light of expert debate concerning the explanations and narratives we offer using them. Cf. Note 19 below.

First of all, it is clear that a form of controlled, evidence–referencing imaginative construction is involved in picturing and describing these kinds of internal contents, as well as proximate and macro contexts. Evidence and imagination are required to do this.<sup>18</sup>

Second, the approach I have outlined does not render actors ‘cultural dopes’: they do not dance to the imperatives of their internal structure, nor to those of their proximate or macro contexts. The phenomenological sociological approach to actors holds that they can reinterpret resources and renegotiate goals; and they can gloss and legitimate their actions in public, a process which can contribute to molding the very environments in which they move. They are not puppets of their own cognitive structures or their agendas. Similarly, the large contextual features that used to figure in vulgar Marxist accounts of history (class, the state, hypostatized economic interests) or those used in today’s historically illiterate PC complaining and name calling (e.g. racism, colonialism or any other solidified and simplified ‘ism’) are not conceived as imprinting ideas or motivations upon actors.<sup>19</sup> Rather, actors are interpreting, competing and strategizing entities, dealing with contexts in the ways indicated in my overall model.

Finally, while it is true that we cannot converse with an historical actor or directly ask him questions, we can look for possible answers to our listening questions in other primary evidence about his interactions with his contemporaries, and in his own earlier or later writings. However, in each of these cases there arise the same issues already discussed about the historian’s construction of categories and frames of interpretation. There is no everyday listening in history and no way to escape the fact that it is only in this difficultly acquired, skillful and intellectually demanding way that the historian might metaphorically be granted credit for upholding ‘both sides of the conversation’. Returning to the beginning of our discussion of historians’ listening, we may charitably conclude that when Collingwood claimed that good historians’ practice involves *the re-enactment of past experience*, he was tacitly endorsing something like this picture of historical technique, rather than literally advising what is impossible (that is, falling for the illusion of empathic identity of understandings and intentions).

## 6. Conclusion: Historical and Other Listenings :

Professor Lindahl, elsewhere on this site, tells us about spiritual listening, which must be the variety of careful and fruitful listening most distant from the picture of historical listening that I have painted. Nevertheless, there are commonalties; given these are varieties of a common species. Thus Professor Lindahl correctly points out that the way we listen sets the tone for everything that follows; that one should become a ‘listening presence’ oriented to understanding not judgment, meaning not perseverating on our response, what we are going to do next. Listening is paying full attention to the other. Listening is not just hearing, which is receiving information; listening is about communication, and calls for closeness, banishing claims to absolute power, not being either passive onlookers or consumers.

Historical listening requires a lot of professionally acquired interpretative machinery and the ability to be able to construct and refine that machinery. But the underlying maxims remain true. Whig history violates Professor Lindahl’s maxims, as does vulgar Marxism and modern neo-Marxist culture of complaint pseudo-history. Both consist almost solely in precipitous judgment, exercised in an emotional cloud of ideological fervor and self-righteousness, while giving the appearance of ‘merely reflecting’ the truths of

historical reality (magically gifted to disciples of these schools of thought). Ironically, at least in my own field of history, and related areas of history of philosophy and intellectual history, the opposite is the case: good historical listening, and resulting fruitful and insightful historians’ writing, arise from an elaborate, dry and seemingly over-rational and de-emotionalized listening regime, by means of the careful, diligent,

---

<sup>18</sup>On this kind of rational, controlled use of imagination by the great philosophers inside the Western tradition, see the eye opening work of Dennis Sepper, *Understanding Imagination, The Reason of Images* (Springer, 2013)

<sup>19</sup>Lest there be any misunderstanding—It should be clear that I accept construction and deployment by historians of large, macro historical categories, such as the state, the economy, social class, as well as grand ‘isms’ which, of course, are ideological (for the historical actors) and institutional/economic structures. The point is that vulgar Marxism, traditionally, and PC neo-Marxist academic posturing, lately, freeze, simplify and dehistoricise these concepts. Instead of sophisticated historians’ models/categories, rich and revisable with their own histories to be written, they are rendered blocks of ideological concrete suitable for trivial rants, posturing and ubiquitous ‘complaints’ and ‘takings of offense’ in everything from social media to what pass for textbooks and even ‘scholarly’ products. On these points cf. Note 17 above. And, no matter whether we construct these categories well or poorly, I am arguing that the simple notion of macro contextual elements ‘influencing’ or ‘imprinting’ upon historical actors can and should be avoided.

concerted effort to construct—and modify as prompted by evidence and criticism—the required dimensions of interpretative framework. Better attention is paid to historical speakers by such elaborate techniques than by narcissistic posturing to the effect that one’s ideology gives one unfettered objective listening access to speakers in the past.

Finally, we may ask whether there is any realm of everyday, real–time listening that approximates to what I have tried to point out about historical listening. It occurs to me that very formal diplomatic and strategic negotiations at the highest level might share some of the characteristics I have pointed out here, because each side needs to listen to their interlocutors through very highly refined and consciously elaborated frames of interpretation. In such cases, emotional contact and empathy are the last things one wishes to extend or be caught up in, although subsequent accounting of such episodes to the general public might involve the confecting of cover stories and fairy tales of surprising and fruitful emotional, even spiritual listening.

---