



## 'How do I know what I think till I see what I say?' An aphorism and its implications for creative theorizing

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### ABSTRACT

The following aphorism is used as the point of departure for the discussion in this article: 'How do I know what I think till I see what I say?' Its literal meaning is that it is through the very act of speaking that you get to know what you think; but the aphorism also has a suggestive quality to it. As a consequence, many artists and thinkers have referred to the aphorism and sometimes also elaborated on it. That the message of the aphorism is relevant for social science as well can be exemplified by the important interest that Robert K. Merton has shown for it, primarily to probe the process of creativity in science. Following up on Merton's ideas, but also taking them in a somewhat different direction, I argue that the aphorism may be of help when you try to theorize in a creative way in social science. Examples of this are provided.

### KEYWORDS

Theorizing; heuristics; creativity; speaking; writing; Robert K. Merton; E.M. Forster

The aphorism that is cited in the title of this article is formulated in a somewhat odd way: *How do I know what I think till I see what I say?*<sup>1</sup> It takes a few moments of reflection to figure out what is meant, namely that it is first *after* you have spoken that you are in a position to know what you are thinking. What a person is trying to say is in other words inseparable from the very act of speaking. At first this may seem paradoxical, then commonsensical. Don't we all we begin to speak without knowing exactly what we are going to say? This is no doubt true for everyday conversation. But it is also true – and this is where it gets interesting – for moments of creativity. A writer, a painter and so on will often start to work on something, without knowing exactly what the result will be.

It is probably this vague but suggestive link to creativity that explains why the aphorism has been so popular with writers and scientists (see e.g. Wallas 1926, 106; Forster 1927, 152; Blanchard 1949, 76, Arber 1954, 45–6; Auden 1962, 22; Geertz 1973, 76–77; Gray 1982, 46; Dideon 1976, Samuelson 1983, 11; Selvin and Wilson 1984, 206; Weick 1995, 12; Kinross-Smith 2013). Robert K. Merton, who is the person who has written most extensively on the aphorism, was especially interested in what it has to say about the creativity of scientists (Merton 1978a, 1978b). To follow up on Merton, this article raises the question if the aphorism cannot also be of help when you theorize in social science. When

you work with the theory part of some research project, you will often start to theorize in a way that you will only become fully aware of when you have completed the analysis.

Before presenting the different ways in which the aphorism of ‘How Do I Know ...’ has been viewed by different people, it should be emphasized that its many interpretations all have one thing in common. This is that they view its message as a type of *heuristic*, that is, as a way or a tool that can be of *practical help* when you try to be creative. The aphorism does not explain what creativity is. It contains hints for how to proceed when you want to be creative and/or face a difficult problem.

The difference between an analysis of creativity and a practical tool that helps you to be creative is central to the analysis that follows; and therefore deserves a few words of explanation. One way to go about this is by making a reference to Gilbert Ryle’s well-known distinction between ‘*knowing that*’ and ‘*knowing how*’ (Ryle 1945, 1949, Ch. 2). The former refers to the factual kind of knowledge, say the molecular structure of water. The latter type of knowledge, in contrast, is of a practical kind, and refers to knowledge of how to use something. You may, for example, know how the motor of a car operates; but knowing how to drive draws on a different kind of knowledge.

While ‘knowledge how’ is not the same as science, it nonetheless has very valuable qualities. Some types of this knowledge, such as technology, engineering and so-called design knowledge, can, for example, be way ahead of science or ‘knowledge what’ (see e.g. Simon 1996). But ‘knowledge how’ can also block ‘knowledge that’, and become an obstacle to the development of science (Chomsky 1988, 180; cf. Chomsky 2016, 101).

## Merton on the aphorism and creativity in science

Since Merton is the person who has written the most extensively on the aphorism that stands at the centre of this article, it may be helpful to start with what he has to say. Merton’s writings on the aphorism have a very special origin which is also linked to their form: two very long letters to a friend (Merton 1978a, 1978b).

The background to these letters is as follows. During an informal dinner party Merton attended in the fall of 1978 the discussion turned to the following aphorism: ‘How do I know what I think till I see what I say?’<sup>2</sup> The place was the Century, a well-known restaurant and club in New York City where a number of Merton’s friends had gathered. One of these was neurophysiologist and Nobel laureate Gerald Edelman, who insisted that the aphorism could be found in *A Passage to India* by E.M. Forster (1924). Merton felt that this was probably wrong but did not know where it had first appeared.

Once the dinner party was over, Merton was unable to let the issue rest. He kept thinking about the aphorism and soon started to do some research on its origin. The reason for his interest was that the aphorism deeply appealed to him, due to some work he had done earlier. Merton was well aware that creativity is a process over which you have little control. He had famously coined the term ‘serendipity’ many years earlier, precisely to capture the fact that scientists sometimes stumble over facts that make it possible for them to make an important discovery (Merton 1945, 50, 1968, 157–62; Merton and Barber 2004).<sup>3</sup> The aphorism that was discussed at the Century made Merton sense an opportunity to explore a different but related aspect of what triggers creativity among scientists.

Merton would later describe why he was so interested in the aphorism as follows:

We are being directed [through this aphorism] to a deep psychological and cognitive truth. Creative cognition is an ongoing process. It's very different from having a routinized, carefully scripted, linear mode of analysis. That's a quite different kind of cognition. When one is thinking anew, the essential is to discover what one is thinking as it moves along. It's a process and not a conclusion. Thinking is not a thought; it is an activity giving rise to thoughts, presumably governed by tacit and explicit norms of what makes for consistency and coherence. The creative thought is registered by one's being surprised by what one says. It is quite another kind of enterprise to discover whether that thought is truth or nonsense. (Merton 1984, 360)

Merton was also fascinated by the peculiar manner in which the aphorism had been formulated, especially by its whimsical style and apparent lack of logic. Many years earlier he had written a book on the origin of another aphorism, using a very similar style and logic, with the title *On the Shoulders of Giants: A Shandean Postscript* (1965). He had done this in a very self-conscious manner which he referred to as 'the Shandean method', after one of his favourite books, *Tristram Shandy* (1759–1767) by Laurence Sterne (e.g. Merton 1978a, 8–9). Merton, in brief, sensed an affinity between the new aphorism and the one he had pursued in his earlier study; and he was eager to explore where his new ideas might lead him.

After some work on the aphorism, Merton could establish that its author was indeed E.M. Forster but that it was to be found in *Aspects of the Novel* (1927) and not in *A Passage to India* (1924), as Edelman had said. Merton also suggested that Forster had emphasized the whimsical nature of the aphorism by placing it in the mouth of an older woman, known by her acquaintances as being not very logical. In the passage where the aphorism was to be found, Forster was referring to

... that old lady in the anecdote who was accused by her nieces of being illogical. For some time she could not be brought to understand what logic was, and when she grasped its true nature she was not so much angry as contemptuous. 'Logic! Good gracious! What rubbish!' she exclaimed. 'How can I tell what I think till I see what I say?' Her nieces, educated young women, thought that she was *passé*; she was really more up to-date than they were. (Forster 1927, 152; 2005, 99; fully cited in Merton 1978b, 21; emphasis added)

During the time immediately after the dinner at the Century Merton pursued his new topic for full force and had soon produced two very long letters on the Forster aphorism (as it will be referred to from now). Both were addressed to Gerald Edelman and dated November 12 and 23, 1978. They were typewritten, single-spaced, and 9 respectively 24 pages long.

As opposed to the letters that make up the text in *On the Shoulders of Giants* (addressed to historian Bernard Bailyn), the letters to Edelman have never been published.<sup>4</sup> Merton was known for being overly severe on his own writings, and sometimes holding on to his manuscripts for years after they had been completed. In this particular case, he may also have felt that the work on tracing the origin of the aphorism was not finished. He had indeed located its place to a work by Forster; but by the time he did this, he had also begun to wonder if Forster was perhaps *not* the person who had created the aphorism.<sup>5</sup> Still, this is where Merton ended his search. After 1978 he would not write anything more on the aphorism, even though he kept collecting material on it for many years.

From what has just been said it should be clear that Merton was not primarily concerned with tracing the origin of the Forster aphorism, even if this was the approach he used. What drove him onward in his research on the aphorism was to see what it could tell him about creativity. He was especially interested in the non-linear and surprising nature of creativity. Would he perhaps be able to add to his theory of serendipity with the help of the aphorism? Could serendipity after all be courted, even if not directly cultivated and planned for ... ?

In Merton's mind it was clear that the Forster aphorism was not only applicable to speaking but also to writing. In his first letter to Edelman, he summarized its content as follows: 'if one says (or writes) something, one can then discover what one thinks' (Merton 1978a, 8). In other words, when you start saying something, you usually do not know exactly what the result will be, and this also goes for writing.

As an example of how writing can help to clarify your thoughts, Merton referred to a statement in a book he often praised, *The Mind and the Eye* by botanist Agnes Arber. She cites the following statement by Descartes: 'When I have tried to put onto paper ideas that have seemed true to me, I have often found that they were false' (Arber 1954, 45). Writing down your thoughts can in other words be very helpful, in this case by showing that they are wrong.

According to Merton, the Forster aphorism has also something important to say about the very nature of creativity. There exists 'a resonance', as he put it, between the way that the creative process operates and how speech triggers thought (Merton 1978b, 6). When you are creating, you are doing something without necessarily knowing how it will end and what the result will be.

Merton made the remark about the resonance in one of his letter to Edelman, just after having cited a statement in the book by Forster in which the aphorism can be found. Merton's own comments on the statement are within brackets:

In it a man is taken out of himself. He lets down as it were a bucket into his subconscious, and draws up something which is normally beyond his reach. He mixes this thing with his normal experiences, and out of the mixture he makes a work of art. It may be a good work of art or a bad one – we are not here examining the question of quality [*n.b.*] – but whether it is good or bad it will have been compounded in this unusual way, and he will still wonder afterwards how he did it [*n.b.*]. Such seems to be the creative process. It may employ much technical ingenuity and worldly knowledge, it may profit by critical standards, but mixed up with it is this stuff from the bucket, this subconscious stuff, which is not procurable on demand [*n.b.*]. And when the process is over, when the picture or symphony or lyric or novel (or whatever it is) is complete, the artist, looking back, will wonder how on earth he did it [*n.b.*]. (Forster cited in Merton 1978b, 5)

On the next page of *Aspects of the Novel* Merton found a quote from a play by Paul Claudel that was even more clear in spelling out the links between creativity and the process of going from thinking to writing. Also this quote was included in the letter to Edelman:

I do not speak what I wish, but I conceive in sleep, and I cannot explain whence I draw my breath, for it is my breath which is drawn out of me. I expand the emptiness within me, I open my mouth, I breathe in the air, I breathe it out. I restore it in the form of an intelligible word, and having spoken I know what I have said. (Merton 1978b, 6)

Merton's third extension of Forster's aphorism has to do with the way in which science is created in real life, as opposed to the idealized way in which this process is described in

books on methodology. Merton also noted that in the arts, as opposed to the sciences, there exists a strong awareness that creativity proceeds in a non-linear and non-logical way. As examples of this he mentioned the works by such authors as Virginia Woolf, James Joyce and Laurence Sterne. A similar, non-linear process also takes place in the sciences when you do research, according to Merton; but this is usually not acknowledged. Instead you find some conventional statement about the way in which the results have been reached. ‘The (reported) process of confirmation [hides] the process of discovery’ (Merton 1978b, 9–10, 13).<sup>6</sup>

At this point of his letter to Edelman, Merton cited a long passage from his own work in sociological theory, *Social Theory and Social Structure* (1949), which shows that he had been preoccupied with this issue for a long time, and that is also applicable to sociology. It reads as follows:

[There exists a] rock-bound difference between the finished versions of scientific work as they appear in print and the actual course of inquiry followed by the inquirer. The difference is a little like that between textbooks of ‘scientific method’ and the ways in which scientists actually think, feel, and go about their work. The books on method present ideal patterns: how one *ought to* think, feel and act, but these tidy normative patterns, as everyone who has engaged in inquiry knows, do not reproduce the typically untidy, opportunistic adaptations that scientists make in the course of their inquiries. Typically, the scientific paper or monograph presents an immaculate appearance which reproduces little or nothing of the intuitive leaps, false starts, mistakes, loose ends and happy accidents that actually cluttered up the inquiry. (Merton 1968, 6, 1978b, 8)

While Merton’s two letters to Edelman represent his most important writings on the Forster aphorism, some of his other writings are also relevant in this context. This is not only true for *On the Shoulders of Giants*, but also for his work on ‘oral publications’ (Merton 1980, 1998, 315–17). Merton was always interested in how to lecture well; and he was known as a brilliant lecturer. While each of his lectures were very carefully prepared, Merton also tried to make room for improvisation and the formulation of new ideas. In fact, he was very eager to see what ideas he might come up with while lecturing. He explained why this was the case in the following way in an interview:

No matter how carefully prepared the lecture, I have always derived the greatest satisfaction from hearing something said, even hearing myself say something, that was wholly unanticipated and interesting. The kind of observation that grew out of the sheer experience of pursuing a thought or problem that had been formulated to the point that it was in my notes, but which I hadn’t been able to carry any further until that moment in the classroom. (Merton 1984, 362)

Merton was well aware of his capacity to come up with new ideas while lecturing; and he developed different ways to derive the full benefit of it. He, for example, routinely assigned teaching assistants to take notes of what he said in class. And he did not allow the students to ask questions while he lectured, presumably since this would interfere with the flow of his thought. Over the years Merton seems to have perfected his technique of developing publishable ideas through lecturing. He would later say that this is how most of his work was produced; and that it took something like twelve years from the initial oral publication to the publication in print (Merton 1998, 317).

But even if Merton did not want to be interrupted when he was teaching, he was well aware of the interactive nature of a successful lecture. He hinted at this in one of his letters to Edelman, by citing Sterne's advice to authors in *Tristram Shandy*:

The truest respect which you can pay to the reader's understanding, is to halve this matter amicably, and leave him something to imagine, in his turn, as well as yourself.

For my own part, I am eternally paying him compliments of this kind, and do all that lies in my power to keep his imagination as busy as my own. (Merton 1978b, 16; Sterne 1997, 88)

## Comments by other people on the aphorism

As the example of Merton shows, the meaning of the Forster aphorism can be expanded in different directions. Merton himself, as we have seen, was primarily interested in improving the understanding of how discoveries are made in science, more precisely in how this takes place in real life, as opposed to the way in which discoveries are usually presented in print.

As the quote from *Social Theory and Social Structure* shows, Merton also had general sociology in mind when he was discussing the importance of laying bare the context of discovery and not confuse it with the context of justification. And this was not the only time that Merton made this argument; in the 1950s and 1960s he had regularly taught courses in sociology on how to theorize, as opposed to just discuss theories without showing how they had come into being (Swedberg 2019).

As mentioned earlier, Merton did not write anything about the Forster aphorism after his two letters to Edelman from November 1978. His idea that the aphorism could serve as a source of inspiration for theorizing in general sociology is however suggestive and well worth pursuing. This will be done in the rest of this article; and one way to do so is to take what some commentators have said about the aphorism, and then look at this material from the perspective of theorizing in social science.

Agnes Arber, for example, mentions the Forster aphorism in *The Mind and the Eye*, and also has some interesting ideas about theorizing that are related to it. She discusses, for example, the danger of engaging in 'over-lucidity' and 'over-simplification' when you write (Arber 1954, 56). Both of these are problematic, in that they make the readers think that they understand something they have not properly penetrated. In order to really understand an idea, Arber says, you have to carefully work it through in such a way that it becomes fully integrated into your thinking. 'No truth is truth for any man until he has rethought it for himself; it has, indeed, been argued that truth is not truth at all, except so far as it is the living experience of a mind' (Arber 1954, 67).

While Arber's speciality was botany, also a few social scientists have commented on the Forster aphorism, including such well-known social scientists as Clifford Geertz and Karl Weick. According to Geertz, the aphorism shows first and foremost that a person's thinking is social in nature. It is only in society, he says, that the act of speaking, and hence also thinking, comes to an expression. To Geertz this shows that thinking is 'an overt, public act', not 'a covert, private act' (Geertz 1973, 76–77).

According to Geertz, in other words, what goes on inside the head of the individual is not private but deeply social in nature. This idea is also central to the research programme for an ethnography of thinking that he formulated a few years later. Geertz here defines

thinking as ‘the intentional manipulation of cultural forms’, and notes that ‘outdoor activities like ploughing or peddling are as good examples of [thinking] as closet experiences like wishing or regretting’ (Geertz 1982, 18).

Geertz’ argument that thinking is profoundly social in nature, and that the social element in thinking can be found both inside and outside the individual, is a view that is common among social scientists. Terms such as ‘thought style’ and ‘thought collective’ are a reminder of this; and so are the sociologies of thinking of G.H. Mead and Randall Collins (Mead 1934, 136–62; Fleck 1981; Mannheim 1982; Merton 1987, 24; Nelson 1992; Douglas 1996; Collins 1998b). In a similar vein Geertz refers to what he calls ‘thought norms’, ‘thought models’ and ‘division of thought labor’ (Geertz 1982, 18).

But that thinking is profoundly social in nature does not necessarily mean that the individual will view her own thinking in these terms. Most of the people who have been mentioned so far in this article, and who have made positive references to the Forster aphorism, have not been interested in social science analyses of thinking or creativity. Instead they have wanted to use the Forster aphorism to improve their own thinking or creativity. They have manifested a *practical interest* in the aphorism that is largely non-scientific. If the moves that you make in order to be creative are social or not, is of less importance from this perspective. This is also the view taken in books on heuristics written by social scientists for other social scientists (e.g. Becker 1998; Abbott 2004).

This, however, does not mean that social factors that are part of the way you think do not have to be confronted and dealt with when you theorize. They do; and this is especially true for those that tend to block your creativity. Negative mental factors of this type can take many forms, from the epistemological obstacles that Bachelard talks about to problems that come with working in an academic environment that prioritizes conventional forms of thinking (Bachelard 2002). Social factors that facilitate theorizing, on the other hand, tend to be taken for granted and not be noticed. As examples of the latter one can mention having a steady income (say, by being tenured) and having lots of talented friends (as Herbert Simon used to say; Simon 1991, 387).<sup>7</sup>

Geertz is not the only social scientist besides Merton who has shown a deep interest in the Forster aphorism. Also Karl Weick, whose specialty is organization theory, has over the years often referred to the aphorism, saying that it summarizes his theory of sensemaking in organizations (e.g. Weick 1969, 5, 2005, 400; Anderson 2006, 1675). The Forster aphorism provides, in his view, ‘a wonderfully compact account of sensemaking’ (Weick 1995, 12). It can also be very helpful, according to Weick, when you theorize in organizational studies (Weick 2005).

The process of sensemaking that goes on in an organization consists, according to Weick, of the following three steps: enactment, selection, and retention (e.g. Weick 1969). You first do something; you then try to understand what you have done; and you finally settle on a specific interpretation of what happened. Weick has in other words taken the Forster aphorism and expanded it from describing how speech may trigger thinking, to how action in an organization comes to have a specific meaning. He has then constructed a full theory of organizations on this foundation.

There also exist a few people who have expressed ideas that are very similar to those of the Forster aphorism, but who do not refer to it. The reasons for this differ; they may not have been aware of the aphorism or they lived before it was formulated. Nonetheless, their ideas are useful to the discussion in this article. Walter Benjamin, for example, touches on

the theme of the Forster aphorism in an essay from 1934 called ‘Pictures of Thinking’ (*Denkbilder*). He writes that ‘a good writer does not say more than what he has thought. And this is crucial. What he says is not so much an expression of what he thinks, as its realization’ (Benjamin 1981, 429). To write well, Benjamin continues, a writer also has to have trained himself in being able to think while he writes; this is not something that comes by itself. Benjamin then adds, in a playful twist of his own argument, that the end result will not be good if you write *more* than what you have been thinking.

A more extensive discussion of the basic theme in the Forster aphorism can be found in a famous short essay by Heinrich von Kleist, called ‘On the Gradual Construction of Thoughts during Speech’ (Kleist 1951, 1986). The essay was written in 1805–1806; and its relevance for this article can be shown by the fact that a copy of the essay is to be found in Merton’s files on the Forster aphorism.<sup>8</sup> The underlinings and annotations in Merton’s hand indicate his interest in Kleist’s text, even if he did not cite it in his letters to Edelman.

Kleist writes with great subtlety about the way in which ideas can be triggered by speech. He describes, for example, how he has sometimes addressed his sister in a very special way when he could not solve some mathematical problem; and how this helped him. To cite:

... when an algebraic problem arises, I look for the first preliminary statement, the equation, which expresses the given circumstances and from which later the solution can easily be deduced by calculation. But, lo and behold, if I mention it to my sister, who is sitting behind me and working, I discover facts which whole hours of brooding, perhaps, would not have revealed. Not that she literally *tells* them to me; for neither does she know the book of rules, nor has she studied Euler and Kästner. Nor is it that her skillful questioning leads me on to the point that matters, though this may frequently be the case. (Kleist 1951, 42)

Kleist’s sister, it seems, had at these times the same effect on him as a muse; she inspired him through her mere presence. Kleist goes on to say that he does not understand what happens when he in this way suddenly finds the solution to a problem he has struggled with. Maybe something like the following takes place, he suggests, sounding a bit like Forster in *Aspects of the Novel*:

... since I always have some obscure preconception, distantly connected in some way with whatever I am looking for, I only have to begin boldly and the mind, obliged to find an ending for this beginning, transforms my confused concept as I speak into thoughts that are perfectly clear, so that, to my surprise, the end of the sentence coincides with the desired knowledge. I interpose inarticulate sounds, draw out the connecting words, possibly even use an apposition when required and employ other tricks which will prolong my speech in order to gain sufficient time for the fabrication of my idea in the workshop of reason. (Kleist 1951, 42)

Kleist describes the way that he speaks to his sister as ‘*speaking to enlighten oneself*’; and he says that it differs from the way that he usually speaks to other people, which he calls ‘*speaking to enlighten others*’ (Kleist 1951, 42; emphasis added). Speaking to enlighten oneself (*belehren*) means not only that you speak to gain clarity; you also try to learn something or are on the verge of creating something new. When you speak to enlighten others, in contrast, you simply tell them what you already know. You learn nothing new, nor do you create.



Kleist does not explain exactly what it is that you do when you are ‘enlightening yourself’. This is a pity because it refers to a very interesting strategy for how to solve a problem when you are stuck, namely by addressing others. Kleist clearly did not mean that you should ask someone, How would you solve this problem? What he instead suggests is that you need to explain the problem you are struggling with to someone else, and in this way you may change your view of the problem and solve it. What is at issue is this: you need to find a way of speaking to others that somehow allows you to express ideas that are present in your mind but hard to get at.

Kleist makes another interesting point in his essay by arguing that memory plays a role in the process that takes place when your thinking is triggered by speaking. ‘It is not we who know,’ he says, ‘it is only a *certain state of mind* that knows’ (Kleist 1951, 45). Also this is a rich as well as an enigmatic statement. What Kleist seems to be saying is that an insight can only be triggered by speaking if you are somehow able to reach very deeply into your memory. And this can presumably only happen if you have carefully thought something through, and integrated it into your mind.

Another interesting use of the notion that you can gain clarity in thinking, but this time through the act of writing rather than speaking, can be found in the work of American philosopher Charles Sanders Peirce. In one of his lectures on pragmatism from 1903, Peirce describes his technique for approaching extra difficult problems in philosophy (Peirce 1997, 205–7). ‘I mostly work pen in hand’, Peirce says, well aware that writing is necessary to thinking. He also says that he begins the whole process by carefully putting together the various arguments that have been used to address the issue in question, writing them down and thinking them through. After this has been done, Peirce says that he looks at the various methods that can be used to solve the problem. The most effective of these are then applied to the problem, and the results are scrutinized and written down. This procedure is repeated a number of times, with something like two to three years in between. After this has been done, Peirce says, you will have a solid understanding of the issue. ‘That, gentlemen, is my way of philosophizing in which I have learned to place much confidence’ (Peirce 1997, 207).<sup>9</sup>

In discussing the issues raised by the Forster aphorism, one may also want to consult what cognitive science has to say about such topics as the impact of speaking and writing on thinking, both when it comes to clarification and triggering creativity. It should first of all be noted that there exists no consensus on what constitutes thinking among cognitive scientists, and how it differs from the use of language. Still, it is well understood that speaking, as opposed to thinking, involves many additional cognitive capacities; and also that there exists quite a bit of difference between the two. Speaking involves, for example, vocalization, auditory vocal learning, and social interaction (e.g. Samuel 2011). According to a well-known argument in the philosophy of language, a speech act can be described as a kind of performance; it may also produce an effect or create a new state of things through the act itself (Austin 1962). In brief, external language is not only different from the inner language of thought; it is also considerably richer (e.g. Bolhuis, Tattersall, Chomsky, and Berwick 2014).

Something similar can be said about the impact of writing on thinking. Since writing involves a number of fine motor skills, the thinking that results takes a somewhat different expression from speaking (e.g. Menary 2007). But more is involved than just motor skills. Writing is, for example, directly related to reading; and it is well

established that literacy improves the capacity to reason (e.g. Huettig, Kolinsky, and Lachmann 2018).

That there exists a link between speaking and memory was suggested by Kleist. In a related spirit it has been pointed out by cognitive scientists that it is also important to write in such a way that the reader remembers what is important in a text. This is referred to as memorability, defined as a way ‘to structure the writing so that the reader can hold the essential parts of the text in memory’ (Bruce, Collins, Rubin, and Gentner 1978, 7).

Studies in cognitive science also suggest that several of the points made by Merton, Arber and others have some empirical support. The act of explaining something to yourself, will for example help you to get a better grasp it (e.g. Kiel 2006, 229). There is also the disquieting fact that when you have *not* properly penetrated an issue, you may still harbour the illusion that you understand it (‘the illusion of explanatory depth’ – Rozenblit and Kiel 2002).<sup>10</sup>

### The aphorism and creative theorizing in social science

It is clear from what has so far been said in this article that the content of the Forster aphorism has been expanded in a number of directions by those who have commented on it. It has, for example, been argued that not only speaking but also writing may help to clarify one’s thinking. In fact, it may not only lead to clarity of thought but also to creativity. Very importantly, according to Merton, the Forster aphorism may help to explain what scientists actually do when they do their research, which is something that differs from the way that scientific research is usually portrayed in textbooks.

To this I would like to add that the Forster aphorism can also be of help when it comes to the process of creative theorizing in social science. Before proceeding with this argument, however, it should be emphasized that speaking and writing do not by themselves necessarily ensure clarity and creativity. According to Karl Weick, ‘people who live by the formula, ‘How do I know what I think till I see what I say?’ will *see* banalities if they *say* banal things’ (Weick 1980, 187).

The first major point to be made about creative theorizing with the help of speaking and writing is that this will take somewhat different forms, depending on who is being addressed. There exist at least three potential audiences for the theorizer: yourself, other social scientists, and students. And each of these entails a somewhat different relationship to theorizing:

Being your own audience means that you speak to yourself. This is something that many scholars do when they polish and edit their texts. You read a text aloud, to see if it has the right flow, to get rid of superfluous words, and the like. Speaking to yourself in order to improve your thinking is probably less common. And very little is known about the ways in which this can be done in an effective way. Maybe one should address oneself in the way that Kleist addressed his sister, that is, in a tentative way, in order to better trigger what is inside one’s mind but is hard to access? Or maybe Karl Weick is correct when he writes that ‘theorizing is about what you already understand by saying aloud your stream of consciousness, and then seeing what you already knew’ (Weick 2005, 409). Whatever the correct answer is, a better knowledge of how to address yourself in order to produce clarity and creativity would be very valuable.

Also *writing* to yourself is a skill that needs to be better understood. What may be called private writing (or writing to enlighten yourself) follows its own rules; and these differ

from those of public writing (or writing to enlighten others). In the private type of writing there is no demand for full sentences, flawless logic and systematic data. You are free to set down your own thoughts and see what they are like. You keep the good ones and discard the bad ones, as you see fit – and without anybody's knowledge.

Here, as in theorizing in general, it is important to create a skill that suits your own needs and talents, rather than trying to follow some general recipe for what private writing should be like. The point in theorizing is always to use the talents you have, not to be stopped by the ones you do not have.

I myself, for example, do my private writing in the following way. I first think a bit, then write down the essence of my thoughts in a few words and without using any punctuation. I never write in full sentences. As I write, I think; and sometimes I add a bit to what I have thought. I then stop, think some more, and write some more. I usually make very little progress in a day, and give up on the whole thing after writing-and-thinking for something like half an hour. I then repeat this way of proceeding every day for two to three weeks; and by the end of this period I have often made some progress. After a while, the many small steps taken during these daily exercises add up to a distance that I could never have covered in one sitting.

When the audience changes from being yourself to that of other social scientists, the whole dynamic of speaking and writing changes. You now typically find yourself in that part of the research process that is known as the context of justification. Clarity and creativity are usually not produced at this stage; the emphasis is instead on proving and reporting what has already been discovered.<sup>11</sup>

This would seem to be all that can be said about the Forster aphorism when the audience consists of other social scientists. This is just not a situation that is conducive to creativity and analytical clarification. But this is a too hasty conclusion. Scientists not only write with one another in mind; they also speak to each other at a number of different occasions – in the workplace, in seminars, at conferences and so on. During the right circumstances, speaking may become an occasion for enlightening yourself and enlightening others; you are able to clarify your thinking and find inspiration to be creative. Just as Kleist's sister sometimes acted as his muse, without knowing that she did this, a whole group of people may operate as a kind of collective muse for one another.

This, however, is something that do not happen very often; and it would be interesting to explore empirically why this is the case. One would also like to know what changes need to be made to traditional seminars, conferences and so on, to turn them into institutions that make social scientists talk to each other in ways that make for clarity and creativity, as opposed to mainly telling each other what they already know. To engage in what Kleist calls enlightening others is not so difficult; how to speak in such a way that you enlighten yourself is much less clear.

When the audience consists of students, as opposed to fellow social scientists, the situation that the Forster aphorism addresses changes once again. Merton, to recall, had tried to develop a style of lecturing that would allow him to come up with new ideas, and then gradually clarify these till they were in a publishable form. The students in his classes were supposed to listen and learn, but not to ask questions; and behaving in this way presumably made it easier for their lecturer to be creative.

One would however also want to know if it would not also be possible to lecture in such a way that *the students* would learn how to come up with new ideas, and in this way

theorize better. As both Merton and Arber well understood, this would mean a different kind of lecturing than the traditional one. Here the goal would be to help the students to theorize themselves, not for the teacher to be brilliant and supply all the answers.

Also when social scientists *write* with students in mind, the focus should perhaps be less on the skilful delivery of knowledge and ideas, and more on making the students learn themselves how to gain analytical clarity and be creative in their work. What Arber calls over-simplification and over-lucidity may work against the goal of making the students think for themselves in a creative way.

It is however not enough that professors try to encourage students to seek clarity and creativity on their own, through the way they lecture and write; the students must also want to do this themselves. Theorizing starts and ends with the individual who does it. The students must also learn to use special forms of speech and writing when they study theoretical works, as part of their education. Even if an article or book has been written with the explicit intention of the author to trigger clarity and creativity in the reader (which is not very common), what is being said must always be met half way by the reader, as Tristram Shandy points out.

Having now spent many pages on the way that special forms of speaking and writing can be used to produce clarity and creativity, I would like to suggest why this is the case. What the Forster aphorism hints at, I suggest, is that creativity does not come when you try to execute a plan or do something that you have already decided how it will end. Instead it suggests that you have to suspend your judgment and see what happens when you do this. There is no security belt nor any clear instructions for how to proceed in this kind of matter; you somehow have to figure out how to fly blind and trust that you will succeed.

This general message, I think, is also applicable to theorizing in social science. In order to think well, you need to know something of what good theorists have said; without this, you will be a dilettante – and accomplish very little. But the thoughts of the good theorists must not be repeated; they should be food for thoughts, and as such properly digested and turned into your own flesh and blood. How this is done is a bit of a mystery and cannot be spelled out in detail. But neither can thinking nor speaking; and the reasons are roughly the same: most of what happens takes place in processes that engage the subconscious.

This means that you need to court your subconscious, approach it hat in hand, so to speak. You need to court it and spend time with it, hoping in this way that something interesting will happen. And when it does, you need to be ready to switch gears because the next step is to explicate the idea and build it out. At this latter stage analytical thought must replace intuitive thinking. Switching back and forth between these different types of thinking, over a period of time, is what will allow that first little fish of intuition to grow into one that is bigger, as Virginia Woolf puts it in *A Room of One's Own* (Woolf 1929, 5–6).

The process that has just been described stands at the very heart of theorizing: spending time with yourself, gently coaxing your subconscious into saying something interesting, perhaps by taking notes of what you think, by speaking to yourself, or just by doing nothing except being attentive to yourself. If this process is repeated day after day for some period of time (say 2–3 weeks), the original idea may grow into something that can become a theory with propositions and testable hypotheses – a nice big fish. This is

how you will get to know what *you* think – and also to create something that you could not have figured out in advance.

## Concluding remarks on creativity as a practical enterprise and the Forster aphorism

An important thrust of this article has been that the Forster aphorism can be interpreted along heuristic lines. Or to be more precise, the Forster aphorism suggests a number of ways of acting which may enhance creativity in a number of activities, from poetry and painting to theorizing in various sciences, including the social sciences. In this practical way the aphorism allows for Columbus-like discoveries, on a small scale as well as on a large scale.

It can also be said that the aphorism implicitly raises the question of what creativity is. As is well known, this is a very difficult topic, perhaps impossible to solve. Nonetheless, there do exist a number of different theories that take on this task. The view of the individual genius may be universally rejected by now, but modern psychologists have developed a number of theories centred around the individual psyche (e.g. Csikszent 1990; Gabora 2013). And so have sociologists, with their theories of how creativity is related to social phenomena, such as opportunity structures (Collins 1987, 1998a), special network structures (Burt 2004), keeping a balance between independence and integration (Coser 1965), collective effervescence (Durkheim 2008), the disturbance and reconstitution of habit (Joas 1996), and the emergence in late modernity of a society that prioritizes creativity (Reckwitz 2017).

In this article, in contrast, creativity has been approached through the idea of heuristics, which can be described as a non-scientific attempt to develop practical rules and guidelines that enhance creativity.<sup>12</sup> This is a way of thinking that dates to Antiquity and counts among its foremost representatives, people such as Leibniz, Descartes, Whewell, Bolzano and Polya (e.g. Groner, Groner, and Bischof 1983, Polya 1971, Hertwig and Pashur 2015). Its approach is not scientific ('knowledge that') but rather practical in nature ('knowledge how'). It has, however, been used to create first-class science, as the names of its foremost advocates shows.

It is clear that the tradition of heuristics does have some features in common with American pragmatism. Both focus very strongly on the practical; the pragmatists also developed a number of ideas about creativity that in different ways is related to this view. According to Peirce, for example, human beings have an inborn capacity to think creatively, which makes the scientist come up with a number of ideas, but these must also be tested, to see which ones are viable. William James broke with the idea that thinking is logical and replaced it with his notion of flow of consciousness, which Virginia Woolf and others have used to create a new approach to the novel. And John Dewey, especially in the second edition of *How We Think*, developed the idea that education should be modelled on the way that artists go about the creative process:

The familiar fact that creative work in the arts, writing, painting, music, etc., is largely unconscious as to the motives and attitudes of the artist, his [or her] mind being fixed on the objects he is dealing with or constructing, suggests the adoption of a like course in both study and teaching. The artist should be taken as a model [in education] rather than the activities of one painfully conscious at every step of just how he is operating. (Dewey 1933, 283)

But there is more to the story of the Forster aphorism than so. Heuristics and pragmatic ideas about various ways in which you make people more creative may *not* have been all that Forster had in mind when he penned his aphorism. What he was also after was perhaps something quite different. In order to see this, let us once more look at the way in which Forster introduces the aphorism to the reader: who is stating the aphorism, and in what context this is done. Forster, to recall, refers to

... that old lady in the anecdote who was accused by her nieces of being illogical. For some time she could not be brought to understand what logic was, and when she grasped its true nature she was not so much angry as contemptuous. ‘Logic! Good gracious! What rubbish!’ she exclaimed. ‘*How can I tell what I think till I see what I say?*’ Her nieces, educated young women, thought that she was *passé*; she was really more up to-date than they were. (Forster 1927, 152; 2005, 99; emphasis added)

What we have here is not a scene of creation; it contains no artists, nor any individuals who aspire to be creative. It is just an everyday scene, with everyday people chatting along, a bit like we all tend to do. An aunt is talking to her nieces, and in a gesture of annoyance with their statement that she does not think clearly, she brushes aside what they say as superficial.

Yet there is a concept of creativity also here, even if it is not of the artistic or scientific type. What the aunt is saying to her nieces is not that artistic people become aware of what they think, as they speak and express themselves. She says that this is something that happens to *herself* – and by implication also to *everybody else*.

What the aunt is alluding to is the kind of creativity that every person is endowed with; we can all think, speak and express ourselves. According to Noam Chomsky, this type of creativity is specific to the human species (e.g. Chomsky 1966, 2015; see also e.g. Sewell 1992, 20; Swedberg 2016). It is also a type of creativity that is ultimately much more fundamental than the marginal capacity of some individuals to be extra good at something: Who can run the fastest? Who can jump the highest? Who is the world’s best chess player or novelist?

The real mystery, according to this line of thought, is to be found in what every human being can do: to think and to speak. These are two wonders: how the brain is constructed in such a way with its 85 billion neurons that you can think, and how you can speak by blowing some air through your throat while you move your lips and tap with your tongue. What is involved here may be called *species-specific creativity*; and it may well be this type of creativity that ultimately accounts for the inexhaustible wealth of art, literature and science. It is also at the very heart of the mystery that E.M. Forster is inviting us to think about, chiding us gently, with the help of the old lady, for being a bit banal and voicing the kind of superficial truths that the youth tends do: ‘Her nieces, educated young women, thought that she was *passé*; she was really more up to-date than they were’.

## Notes

1. I am grateful to Michela Betta, Patrik Aspers, the reviewers of *Distinktion* and one of its editors for very useful comments. I also would like to thank Wissenschaftskolleg zu Berlin, where this article was conceived and written.

2. While this wording of the aphorism is the one that Merton (1978b, 1) used and that can be found in Forster (1927, 152), there also exist a number of variations (such as ‘How can I tell how I think till I see what I say?’, ‘How do I know what I think until I see what I say?’, and so on).
3. Merton’s definition of serendipity reads as follows: ‘the discovery, by chance or sagacity, of valid results which were not sought for’ (Merton 1945, 50).
4. The letters can be found in Box 372, Files 1 and 2 in the Robert K. Merton Papers at Columbia University Rare Book & Manuscript Library. Besides the letters, the two files also contain various clippings and letters relating to the aphorism. There exists no message from Edelman in response to Merton’s letters, nor any other indication of how he reacted to them. File 1 contains 164 pages of material and File 2, 112 pages.
5. Merton had e.g. found that George Wallas had used the aphorism in a book published in 1926, that is, one year before the publication of *Aspects of the Novel* by Forster. It can be added Merton did not explore to what extent Forster used the insights of the aphorism in his own work as an author. Nonetheless, in an interview many years after the publication of *Aspects of the Novel* Forster was asked if he himself thought that ‘all the important steps in the plot must also be present in the original conception [of a novel that the author has]’ (Furbank and Haskell 1953). Forster answered, ‘certainly not all the steps. But there must be something, some major object towards which one is to approach [like the event in the cave in *A Passage to India*].’ He also said, ‘Of course, that wonderful thing, a character running away with you – which happens to everyone – that’s happened to me, I’m afraid.’
6. Merton preferred this terminology to the conventional one of context of discovery and context of justification (Reichenbach, Popper).
7. ‘One heuristic that has been of first importance to my work is missing, however, from the programs I have described in this chapter [entitled ‘The Scientist as Problem Solver’]. To make interesting scientific discoveries, you should acquire as many good friends as possible, who are as energetic, intelligent, and knowledgeable as they can be. Form partnerships with them whenever you can. Then sit back and relax. You will find that all the programs you need are stored in your friends, and will execute productively and creatively as long as you don’t interfere too much. The work I have done with more than eighty collaborators will testify to the power of that heuristic.’ (Simon 1991, 387).
8. See note 4.
9. In a passage he later deleted, Peirce adds: ‘...barring communications in newspapers, the fact is that I have never printed anything about philosophy which was not based on at least half a dozen independent written attempts made at long intervals to analyze the subject far more minutely than I have ever done in print’ (Peirce 1997, 277).
10. There is also the famous experiments by Benjamin Libet (Libet et al. 1983). These show that before an action is taken, a signal to initiate the action has already been registered in the brain. The example Libet that used was a person moving a finger, something that limits the interests of his work for the argument in this article, which is how a person’s ideas and thoughts emerge from the subconscious. Nonetheless, Libet’s work does show how central the subconscious is to human activities.
11. This picture of how a scientific work comes into being is highly stylized. Many social scientists work, for example, by producing a number of drafts, which are changed a bit each time around. This allows for a gradual improvement of the argument; it also makes the line between the context of discovery and the context of justification less clear. On the negative side, the workstyle of producing several drafts can lock in the original analysis and block a radical change of direction.
12. Following the pioneering work in psychology by Amos Tversky and Daniel Kahneman in the 1970s, the term heuristics also refers to another phenomenon than discovery and creativity, namely decision-making with the help of thumb rules, in situations of uncertainty (see Kahneman, Slovic, and Tversky 1982).

## Disclosure statement

No potential conflict of interest was reported by the author.

## Notes on contributor

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