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The Problem of 'Whig History' in the History of Science

In this Chapter I want to talk about a particular pathology of history writing which is related to the matters dealt with in Chapter 2. This is a particular disease of history writing--a particularly bad way of writing history that we call **Whig History**. The problems and pitfalls of writing history this way affect many fields of history, including the one that interests us, the history of science. It will save us much time and effort later in the study of the history of science, if we learn to identify and avoid these pitfalls right at the outset.

In 19th Century Britain the term Whig denoted a member of a particular political party, the Whigs, or more generally someone who subscribed to the Whig philosophy and the Whig ideology. In the twentieth century it has come to mean people who write history in a certain way, reflecting the beliefs of that party, and that philosophical system and hence, as we shall see, falling into some interesting mistakes about the techniques of understanding history.

Now, the Whigs in the nineteenth century tended to be comfortable, liberal, open-minded English gentlemen, and they had two particular interests, points of focus. They were first of all very proud of English parliamentary constitutional democracy--to the level it had attained in the 19th century. English parliamentary constitutional democracy meant votes for a lot of people; that is, for people who were responsible enough to be allowed to vote (this excluded all women and male workers of course). That is what they meant by constitutional monarchy; opposing their conception to the Continental European style of autocratic monarchy where the people had few rights -- as in Prussia, Russia or the Austro-Hungarian Empire. The other thing the Whigs prided themselves upon was their religious tolerance. Yes, there was a Church of England, but you didn't have to be a member of the Church of England. You could be anything so long as you were Christian. Tolerance did not extend to atheists, Moslems, or very far to Jews.

The great Whig historians, starting with Lord Macaulay evolved a way of writing English history that situated the whigs in the position of the 'good guys' in British history. The 'good guys' were the people who at any time favoured or appeared to favour 'constitutional monarchy' and 'religious toleration' (as defined above). The 'bad guys' were the people who at any time opposed one or both of those ideas. English History, from the Whig perspective, was the story of the gradual, but inevitable triumph of the beliefs of the 'good guys' over the beliefs of the 'bad guys' (fig 1). For example, in 1215, King John signed the Magna Carta, having been 'urged' to by his leading barons. In the Whig view of history, the feudal barons were harbingers, almost the sorts of 'discoverers' of the enlightened constitutional parliamentary viewpoint and they were speaking for the masses. They were virtually 'good guys', virtually liberal gentlemen of the 19th century! They were initiating the first steps of reform for us, and King John was a superstitious stupid reactionary, a very 'bad guy'.

Now, the idea that the barons who forced King John to sign the Magna Carta had anything in common, philosophically, culturally, politically, with the men who in 1850 sat in the House of Commons on the Whig side of the House, is frankly absurd. In reality, the smelly, ignorant lice-infested feudal barons obtained from a weak and indecisive monarch, King John, a written statement enforcing certain aspects of their

own privileges. The medieval barons who argued with King John were medieval barons who argued with King John--they were not 19th century Whigs. The barons wouldn't have wanted the Whigs to be there, to be able to vote. The barons' viewpoint was 'Only barons should have a say about anything'.

From this example you can begin to see what Whig style history does -- it reads the past to find good guys who supposedly agreed with or promoted ideas the writer values in the present, and it sees the good guys being opposed by bad guys who, because of ignorance or bias supposedly opposed ideas the writer values in the present. Hence Whig history distorts the reality of the issues, ideas, goals and viewpoints of people in the past, refusing to take past people and events in their own social and cultural terms, and instead 'scoring' them against a modern set of ideas and values, scored as 'good' by the whiggish author.

Another example of Whig history at work comes from the period of the Protestant Reformation in the 16th and 17th century. The typical Whig historian might sound like this:

There were Protestants and there were Catholics. England is a Protestant country. The Anglican church is virtually Catholic, but its historical origins are Protestant. It's tolerant. Protestants are tolerant. Protestantism therefore is a step towards religious toleration. It's a step against the autocratic authoritarian, monolithic, superstitious, Catholic church. So the Protestants of the 16th century were 'good guys', and the Catholics of the 16th century, not to mention the Catholics of any other century, were bad guys. The Protestants stand on the ground of religious toleration and freedom and the Catholics don't.

One does not need to know much about Martin Luther and John Calvin to realise they were certainly not complacent, liberal, easy going gentlemen, like these 19th century Whigs. Calvin was quite happy to burn people who didn't agree with him (as were some of the Popes and inquisitors) if he could only get his hands on them. Unfortunately for Calvin he only controlled Geneva, while the Pope and the Catholics controlled a lot more territory.

Martin Luther would not have approved of merchants and upstart artisans, or for that matter, working men sitting in Parliament. When there was a revolt of German peasants, Martin Luther said in effect to the princes and the rulers of Germany, 'you have every right to smash this peasant revolt, for people must listen to their local prince, and not to their local parliamentary monarchy'. Martin Luther did not talk the language of 19th century politics. How could anyone imagine that he did! Martin Luther was a 16th century man. By the same token, these Popes opposed to John Calvin, the Renaissance Popes, such as Julius II or Leo XII, were cosmopolitan, tolerant, lavish, materialistic, hedonistic, tolerant of cultural and intellectual variety and novelty; they were sort of Ecclesiastical 'yuppies', not wild bible-bashers. That's exactly what Calvin and Luther didn't like about the popes; they weren't strict or dogmatic enough.

Now which side are we on; or better, 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 are defined in the terms of a 19th century English Whig gentleman? The answer is, of course not. Whig history is the evaluation and explanation of history from the standpoint of assigning merit and demerit based on some values and ideas accepted in the present. The whig historian imposes present values upon the past, and misses the

specific, historical colourations of people in the past, their actual ideas, values, aims and viewpoints.

Whig history, in other words, takes historical figures like Luther, Calvin, King John, the Barons the Popes out of their own historical contexts; it tears them out of the historical situations where their viewpoints, their actions, made sense; and it then recreates these figures in some kind of mythological way, in terms of what strikes a 19th century Whig historian as good or bad. That is not the way to understand how history unfolds because it just distorts it from the start.

What makes all this interesting and pertinent to us is this: the very same thing happens in the history of science. There are Whiggish histories of science; indeed most histories of science are Whiggish histories of science. They judge the past by the standards of what currently is accepted as true and good in science. Hence, in the past there were good guys who foresaw the present truths and worked for them, and there were bad guys, biased, or ignorant guys who opposed the emergence of these truths (fig 2).

Let's examine a simple example: Consider Nicholas Copernicus. We are going to be hearing more about him in later Chapters, but for now let's settle for the fact that Nicholas Copernicus (died 1543) was the first modern European to state that the earth goes round the sun rather than that the sun goes round the earth. We, too, believe that the earth goes around the sun. So obviously he's a good guy and was on the right road and those who opposed him--anyone who didn't agree with him at the time, who believed that the earth was the centre and the sun went around--must have been a religiously or politically biased fools or worse. However, consider this, we are going to study Nicolas Copernicus and we are going to find that Copernicus actually believed only a very tiny number of things that we would agree with today. In fact there is virtually nothing that Nicolas Copernicus believed about astronomy, that strictly speaking we believe in today. For example, he believed the sun was completely at rest in the centre of the universe, and that there are no other solar systems; that the earth rotates because it is natural for it to rotate, whatever that means; and that the earth revolves around the sun because it, like each of the other planets, is attached to its own revolving crystalline, heavenly sphere (God knows how...).

So, looking at Copernicus in his own terms, in terms of what he actually believed, he's not some great good guy who's making a giant stride in our direction. By the same token, people who disagreed with Copernicus, were not fools. In fact, we shall learn that even fifty or sixty years after Copernicus died, his opponents still had excellent, rational reasons for rejecting his theory as scientifically inadequate. In fact, the man who was way out on a limb, was Copernicus, and at the time he was rightly criticised by his competitors. Hence, we distort history, by being Whiggish about it, when we say Copernicus was simply a good guy on the road to the truth, obstructed by bad guys who, ignorant or evil, did not want to take a step toward the truth.

There's also another reason why Whig history of science is suspect. If we judge Copernicus to be a good guy, we are judging him on the basis of present knowledge. Thomas Kuhn (cf Chapters 15 and 16) tells us that historians of science have discovered that every so often in the history of science there are major revolutions of concepts, of theory. If theories change radically, after a revolution, what people take as true scientific knowledge after a scientific revolution is different from what was true scientific knowledge before that scientific revolution. (Kuhn's examples of major revolutions in scientific theory include, the Newtonian revolution in physics in the 17th

century; the Darwinian revolution in biology in the 19th century; and the Einstein and quantum mechanics revolutions in physics in our own century).

Now, suppose some of our own knowledge might be subject to a revolution somewhere down the track. Then our Whig history, written before the revolution, will have to be recreated as a new Whig history in favour of the new revolution or theory. So Whig history makes history *and the dynamics of historical change* hostage to what we happen to believe right now, even though it is obvious that what is taken to be true and good might change radically later, thus changing the Whiggish pattern of 'good guys' and 'bad guys' in history.

When we write Whig style history we don't bother to place the historical figures, the historical actors, in their own contexts of value, belief and behaviour, and hence we fail to understand what was 'reasonable' to them, and what 'made sense' to them. As a consequence we also fail to understand why they were doing the things they were doing, in the context of their own time, their own society, their own belief systems. We make our present values and beliefs (which might change later in history) the measure and the explanation of what they did and why they did it. This tells us about our own beliefs, but not how history is made by the actions and beliefs of people in the past.

Finally, let's look just a little more closely at the problem of Whig history of science. Here we can make use of some of the material we have dealt with in previous chapters. The key point about Whiggish thinking concerning the history of science is that it almost always depends upon underlying belief in the cult of facts and the three inter-linked myths which we have talked about--the myth of method, the myth of autonomy and the myth of progress. Many books about the history of science will treat the material we cover in this subject according to just such a Whiggish model, which would include the following elements.

- (1) First, in any Whiggish story about the history of science, there is the assumption that the truth, the facts, are out there for the heroes, the good guys to capture. (cult of facts)
- (2) The good guys, Copernicus, Galileo, Newton and the rest, go about this by inventing and applying 'the scientific method', that supposedly reliable and transferable tool for finding and assessing facts. (myth of method). But,
- (3) Of course, the good guys face opposition, from bias, religion, ideology whatever, and so they can only prosper if they can win some autonomy and freedom for their endeavours (myth of autonomy), and
- (4) Finally, if all this happens, reliable knowledge of the facts of nature is built up, constituting **progress** [toward what we presently take as good and true].

When we study the work and struggles of people like Copernicus and Galileo later in this book we shall see whether we want to stick with some sort of Whiggish tale, or whether modern perspectives on the history and philosophy science suggest a rather different and more revealing type of historical analysis. We are going to see that Whiggish history of science depends upon and reinforces the three key myths about science -- method, autonomy and progress. Hence we shall see that all these beliefs stand or fall together. If they stand, we remain at the level of cultural myth and mystification in our understanding of Western Science; if they fall, the possibility of a demystified historical understanding of science emerges, and that is where we are headed over the next twenty-three Chapters.

Figure 1 Whig History

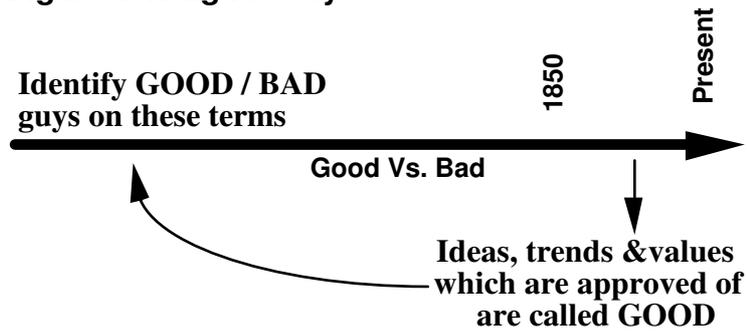


Figure 2 Whig History of Science

