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What is history? Not everything that happens in the past is part of history. That Caesar crossed the Rubicon, is something generations of school-boys have learned as something of historical significance and well worth commemorating and commit to memory; the fact that literally millions of other people (not to mention countless beasts of burden and wild animals) have crossed the Rubicon as well, constitute undeniable facts, but something the historian chooses to ignore. Why? Because supposedly those have no bearings on the present. History, in the words of R.G.Collingwood, is the past as created in the present. What is the past? The past is an ocean of factual things, most of which are sunk out of sight into the depths of oblivion. The mere compilation of facts has nothing to do with history, it is an activity whose sources are to be looked for elsewhere, be it in a neurosis of nostalgia, an obsession with the steady obliteration that time effects on the known and knowable past. Rankes famous dictum, that the task of the historian is to find out what really happened (*wie es eigentlich gewesen*), is nowadays scorned as overly naive and misleading, at least if read literally, in a sense that Ranke may never have intended.

From a philosophical point of view the past is inaccessible to us, or as far as it is accessible it is at least not available in the same way the present is available to  $us^{1}$ . and its inaccessibility is of a different kind than that of the future<sup>2</sup>. The past and the future are in a sense Platonic realms, of undeniable reality, but of a different kind than that which impinges on us directly. The historians attitude to the past is similar to the mathematicians attitude to mathematics. In both cases we are dealing with something that exists independently of both the historian and the mathematician, but which does not come to life until observed and to some extent created. The mere multitude of mathematical facts are inert and meaningless, just as the accumulation of what has ever happened. Both the mathematician and the historian are looking for understanding. The kind of understanding differ greatly as to details in the different disciplines, but the basic motivation is the same, namely that of intellectual curiosity provoked and partly gratified only to provoke anew supposedly in an unending loop. The understanding as such, does not belong to mathematics, neither to the past, it is part of the minds of a mathematician or a historian, and as such it is undoubtedly a human construct, because what else could it be? This fact has led to confusion as to the nature of mathematics, whether invented or discovered,

<sup>&</sup>lt;sup>1</sup> The present itself is an ephemeral entity, no sooner grasped out of the future, before it is sunk irretrievably into the past, as observed by St Augustine. But let us ignore this for the purpose of this essay, as Carr likewise ignores it on purpose in his book.

<sup>&</sup>lt;sup>2</sup> The asymmetry of the past and the future is nicely illustrated by the fact that the nothingness that preceded us fails to inspire the same kind of terror than that which awaits us. We usually acknowledge this asymmetry by talking of the arrow of time, an emergent feature incidentally not present at the most basic of mechanical physical reality.

whether of a transcendental Platonic realm, or a mere social construct, whether of an objectivity independent of man, or a subjectivity ultimately based in man and with no meaning beyond him. A similar confusion, if not as advertised, exists as to history, and Carr gives expression of not fully having mastered it. Understanding is not arbitrary, it has to be compatible with the facts, it is not derived from the facts, but it is shaped by them. Facts enter selectively into mathematics, just as it enters selectively and strategically in science, and history is not essentially different from either. This Collingwood understood well. History is a creation, it is not mere copying. If ever Collingwood heaped scorned on something, it was what he dismissed as 'the scissors-and-paste' method of so many so called historians. You cannot create history by simply collecting whatever has been written and documented before, cutting out different parts of it, and then pasting them together into a more or less coherent narrative<sup>3</sup> This idea of doing history essentially is one of repeated copying, by each transmission, the material is being degraded (acknowledged by the prevalent hierarchy of primary, secondary, tertiary etc sources), and our knowledge of the past is inevitably going to be less and less as time goes on in its relentless erosion. The absurdity of the process and its mindless character becomes much more apparent when applied to mathematics and science. Would there ever be any progress in either would our only method of research be the mere transmission of the results of the past, suitably rearranged? The idea of history is that we can actually learn more about the past, than the past knew about itself. Such a way of transcending sources is based on an active and inquiring attitude to the past, one of asking questions and further questions based on their tentative answers. It does not mean to create the past as the past, as Collingwood considers impossible, it means creating the past in the present, with the tools available and by the motivations which happen to provoke our curiosity. To some extent it is an admission of epistemological constraint, the past as the past is inaccessible to us, it is only the past recreated in the present that makes sense and which we can hope to achieve. And besides the ultimate ambition of being able to understand the past better than the past itself, makes it impossible to place it in the past. The past with a transcendent understanding of itself would be a different past, an anachronism. Thus writing history is a matter of selection and interpretation, a selection of various facts chosen to buttress a theory and an understanding, it is created in order to make sense to us. And Collingwood makes a special point that the study of history is not a study of nature, the latter he sees as a spectacle, but a study of man. And man differs from nature by having thoughts, and the ultimate historical understanding is related to recreating the thoughts of the past, the thoughts that motivated and provoked the actions, and without the knowledge of it, much of history would appear completely unintelligible<sup>4</sup>.

Carr does at some level understand Collingwood, he treats him very respectfully,

 $<sup>\</sup>frac{3}{3}$  This is also typical of the way most school-children execute so called research projects. They sample available sources, be it encyclopedias or nowadays the internet, and paste them together. This is supposed to be good pedagogy and is often as already noted elevated to the status of 'research'. It is basically a mindless activity, and may do more harm than good.

<sup>&</sup>lt;sup>4</sup> This is actually the case with much of mathematical exposition. A reader is often threatened by drowning in a mess of technical and ultimately trivial detail, the actual motivating thought often being hidden by the author for the sake of so called logical clarity. It is often the case that a logically incoherent

yet he is troubled by him, or rather of the ultimate implications he sees which can be drawn from that attitude described above<sup>5</sup>. If history is a creation of a historian, if it is inevitably colored by his personal prejudices as well as those of his times (and how could it be otherwise?), how can we ever hope of any objectivity? What does ultimately stop us from a comprehensive relativism, in which no interpretation is superior, or more true, than any other? When there are no ultimate standards of quality does the notion of quality even make sense? If history is what the historian simply decrees, we end up in a post-modernist nightmare, one which Carr wants to avoid, as opposed to what many of his younger colleagues seem to prefer and accept. I think that he has simply not fully understood the wider significance of what Collingwood proposes, nor the intentions behind it. After all Carr may be a brilliant historian, but he is not a profound philosopher, seeming to lack the proper temperament. What Carr instead proposes is the idea of progress in history, that each generation of historians assimilate the insights of previous generations, not replacing them but incorporating them in a larger more comprehensive whole. And he in particular detects progress in the fact that traditional political and military history, so focused on the fates of nations, is being widened to take also into account sociological and economical factors. But this is just what happens in mathematics and science. A process not so much of cycles of fashion (although those as in any other human endeavors are unavoidable) but one of accumulation. In this way he envisions an asymptotic approach to an objective and true assessment of history, not unlike the vision of Popper, of truth being approached asymptotically, being in the nature of an ideal we can never fully attain, but to which we can come arbitrarily close. Or maybe more appropriate to be compared with C.S.Peirce pragmatic vision of truth, as being what the 'community' (envisioned to extend indefinitely into the future) eventually comes to accept.

However, from notes surviving in preparation of a second edition of the book (which

exposition, in which the underlying thoughts are more transparent, is far easier to apprehend. The routine act of logical cleaning up, can be safely left to the experienced reader. Admittedly the traditions of mathematical exposition are deeply ingrained, and besides it is not so easy to articulate underlying thoughts (and a bit cynically one may suspect that many mathematical authors may not possess any in the first place) as it is to present formal statements of spurious clarity and logic. But every mathematician can testify to having his or her confusion dispersed by some chance remark. This is something that you could catch informally waiting in a line in a cafeteria, or even at a formal lecture. Incidentally an audience expects from a lecture a coherent narrative, and most lecturers consciously comply to this expectations. The results are performances that become pointless once the narrative thread is lost. On the other hand most people do not want lecturers that ramble on in some incoherent way at the outside chance that out of this random walk some insight of value could be accidentally conveyed, although ironically it is exactly this kind of aphoristic insight that you can realistically expect from a lecture, most of which are otherwise lost in permanent oblivion, especially if they are striking and elegant, seducing the mind rather than challenging it.

<sup>&</sup>lt;sup>5</sup> How much did Carr understand of Collingwood? Judging from the summary he presents of his philosophy, one gets the feeling that he has missed the point. It is sobering to realize that if even such a capable and sympathetic reader as Carr gets so little out of the book, what could be expected of the general reader? Ultimately most of us are general readers. Would my understanding strike others as equally misplaced?

was never completed, although Carr seems to have been active and mentally alert until his death at 90), one suspects that Carr had come to a more mature and modern appreciation of modern science, and that it is far closer to history than he had previously understood. In particular that it is not the slave to the primitive kind of empiricism he takes exception to. In particular facts are not well-defined pebbles. Hard definite pieces we cannot ignore, and out which we inductively build edifices. In fact a fact does not make sense without a theory; and it is only through a theory, meaning a particular point of view, that we can discover facts. Facts are what we observe, not directly, but always in the light of some previous understanding<sup>6</sup>. The very idea of unmediated observation is a myth, already attacked by Darwin. We do not learn from nature by unprovoked observation, nor do we build up knowledge by patient induction, finding patterns and drawing inferences and making generalizations. Knowledge does not exist out there at least not in its structured variety. As Popper reminds us, we do not learn by a Lamarchian process but by a Darwinian. We learn by creating theories to be tested by questions. Nature reluctantly reveals its structure (and to what extent is that structure inherent in nature as opposed to in our own minds?) not by regular instruction, but by reacting to our probing questions. If we ask nothing, we learn nothing. And of course this is precisely Collingwoods attitude to the study of history<sup>7</sup>.

Is History Science? Not Science in the sense that his word connotes in the Anglo-Saxon world, but surely 'Wissenschaft' he proposes. Ironically, Carr notes, that the objections to calling History scientific, does not come so much from the scientists themselves, eager to keep their domain exclusive; but from the so called humanists, who are reluctant to let their discipline be sullied by the mindless technicalities of the scientific attitude. In short the idea to separate history from science is mostly motivated by snobbishness of the people on the other side of Snows much quoted cultural divide. In particular Carr takes issue with some of the standard arguments against history being science, notably that it deals with unique unrepeatable elements, and that it cannot be predicted. It is true that history consists of unique events which cannot be repeated, after all events that can be repeated and predicted are not the proper domain of historical inquiry. But not even natural science is ultimately concerned with prediction, what is important is 'understanding'. The theory of evolution, if ever a historical intrusion into natural science, does not lend itself to prediction of its future course, its value lies in the understanding it gives us of the process of evolution, it organizes our thought, it provides a narrative, and most importantly it provokes questions to be asked. The theory of Evolution is not about iron-clad laws, least of all quantifiable ones. It is about principles, and ultimately its philosophical import is how order can emerge from chaos. And, thus Carr is triumphant to

 $<sup>^{6}</sup>$  A preconceived frame of mind, popularized by T.Kuhn as a paradigm. An idea that can easily be traced back to at least Kant

<sup>&</sup>lt;sup>7</sup> We should not confuse this with another popular metaphor, namely that of cultural transmission being of a Lamarckian nature as opposed to the Darwinian one of natural evolution. This is emphasized by Carr, pointing out that the cultural evolution is much faster than the natural, and that modern man has not undergone any significant biological changes during his brief tenure. Dawkins on the other hand has put this metaphor to presumptuous literal interpretation through his much touted theory of memes and their proliferation, with particular emphasis on the regrettable prevalence of religion.

point out, the prevailing paradigm of the 19th century of finding laws, has been abandoned by the 20th. This I think, however, is an enthusiastic simplification, after all Carr may be thrilled by the general philosophical trend of meta-scientific speculation, yet he is ignorant of its mundane workings. Physical laws play as an important role in physics as ever, even if there may also be other features to be added. But as he admits, he does not know, nor cares to know, why milk boils when heated, he is after all a historian not a natural scientist.

There are no laws to be found in history, but that does not mean that history exclusively deals with the unique and irreproducible. Generalizations and abstractions are inevitable in any historical reflexion. Just take such an idea as war. Wars differ greatly between themselves, yet that does not make the abstraction of the notion of 'war' meaningless. In fact it would be impossible to imagine how we could think about history at all if we are not allowed to make this generalized abstraction. It is just those kinds of generalizations that makes it feasible to think of history in any systematic way and to come to a certain 'understanding' although of course this kind of understanding is of a very different character than what we can expect to experience in say mathematics<sup>8</sup>. Another stumbleblock to the acceptance of history as a scientific enterprise is the problem of causality. In logical organization, we tend to have strings of casual relationships, one bringing about the other. Ultimately this inspires a deterministic point of view, nothing happens without a reason, and once something happens, something else is bound to happen, reducible to the first. Carr does not go into philosophical subtleties as such suggested by Hume, that the notion of one thing causing another is an illusion<sup>9</sup>, his attitude is a common-sensical one. Our precise knowledge of causes in history are so vague that the question of determinism and the absence of free will do not enter into historical investigations. And in history there are never any single cause, always many causes which interact and reinforce each other, and among the causes we need to establish a hierarchy, and in any historical explanation we need to make a selection of causes, singling out the relevant to the merely accidental.

The presence of the accidental seems to make mish-mash of any attempt at explaining and understanding history. We may very well discern general trends, but what significance do those have if they can be overturned by a single unpredictable accidental fact? Is history not just one damned thing after another, performing a drunken Brownian dance? But even so if true, there is also a system to madness, and if properly viewed even the accidents of a Brownian motion can be shown to exhibit features of exacting uniformity, as every mathematician knows. The role of accident in history ties in with the role of 'great men' in history. Can individuals effect the cause of history? If so history hinges ultimately on the accidental conception of 'great men'. Could it be true that if timing and temperature had been slightly different, Hitler would never have been born, and the world would have been saved the horrors and the still enduring trauma of a Second World War? This idea goes back at least to Poincaré, who blissfully ignorant of the emerging Hitler, instead used Napoleon, whose spectre dominated the political imagination throughout the 19th century.

<sup>&</sup>lt;sup>8</sup> It is a commonplace to assume that mathematical understanding is simple and elemental, while historical and political is complicated and messy to the point of almost being unattainable.

<sup>&</sup>lt;sup>9</sup> Or perhaps better still. Casual relations do not exist in nature pure, (whatever that is), but only make sense in our theories of nature.

The idea of cause and effect in history, leads to a cascade, in which each step involves a cause having a greater effect than itself. By iteration we get an exponential growth of very small effects, technically referred to as hyperbolic systems, and in recent decades widely popularized as the 'butterfly setting off a distant hurricane by simply flapping its wings'. Thus in principle deterministic systems, such as weather modeled on a few simple physical laws, exhibit truly unpredictable and chaotic systems, due to the infeasibility of arbitrary precision and the holding fixed of all variables but one. There are indeed a great multiplicity of pathways to an event such as the Second World War, and a million ways that it could never had taken place, everything else kept constant. Thus starkly put in the way Poincaré chose to do, tongue in cheek, the proposition of the instability of the Second World War seems absurd. Was it really the demonic genius of a Hitler that made it possible. That without his baleful influence, no one would ever dream of engaging in such an activity? Had it been prophesied that in 1889 a Hitler would be born, had we then been justified following the example of King Herod to have every newborn child of male sex slaughtered? Implicitly suggesting that the good deeds of all his contemporaries would never have counterbalanced the unique evil of a 'great man' such as Hitler? Surely the idea would have greatly appealed to him. And, as Carr notes, the idea has a rather universal appeal, how much more comfortable to the German nation to blame its misdeeds on the evil of one single individual who mesmerized them all. Talk about a Christ like figure, taking on his shoulders the guilt of a whole nation.

On the other extreme is the notion, famously proposed by Tolstov in 'War and Peace', to the effect that the individual matters none at all, being but a hapless piece of float-some being tossed on the crested waves of impersonal historical forces. This notion has been attacked by Isiah Berlin (a friend of Carr and often quoted in the book in a spirit of friendly polemics) and Karl Popper. Popper in particular attacks all notions of impersonal historical forces and their implications of destiny and inevitability as historicism. Carr complains that the notion of historicism, once precisely defined, has in the hands of Popper become to mean almost anything that the latter dislikes<sup>10</sup>. To face the issue, Carr presents a little story to illustrate, after all the lectures that gave rise to the book were meant for an extended audience. Imagine a certain man Smith who gets drunk, drives his car, whose brakes are failing, and due to a high hedge he does not notice a certain Robinson who is on his way to buy cigarettes, and is hit and killed. Who killed Robinson? Smith, his intemperance, the auto-mechanic who failed to keep the brakes in working order, or the city authorities that neglected to cut down the hedge? Or perhaps Robinson himself who decided to cross the street and buy cigarettes (according to Carr a most innocent desire) at that very moment. Had Robinson not been a smoker he would not have come to grief. In short there are very many causes, each one of which removed, would have deterred the tragedy. Clearly among those causes there are significant ones which have

<sup>&</sup>lt;sup>10</sup> Somewhat surprisingly Carr rebuts one of the arguments of Popper against Marx and his belief in historical inevitability by quoting from a private letter of the sage, a letter in which such a belief is explicitly denied. Could not such a statement be found in his published writing? Anyone who publishes a lot is bound to present a host of contradictory statements, and thus it is never impossible to find corroboration for whatever one desires. Clearly one side-remark in an informal setting, should not be considered to annul a corpus of work, whose main thrust is the opposite.

wider ramifications beyond that of this particular incident, such as drunken driving and mechanically deficient cars, and which by a historian (as far as he would concern himself with the incident) should stress as basic ones, and others, as the impulse of Robinson to smoke, that he should ignore. History is concerned with numbers, not individuals, only things that involve a large number of people are historically significant. (Yet of course, as noted, a single individual may have significant effects on millions of people.)

This ties in with what is the proper interest of a historian, because as we have already discussed, not everything that happens in the past is of history properly (although as Carr admits, anything that has happened, could be potentially of historical interest, and becomes so whenever a historian decides it is!). Carr notes that there is often assumed to be a conflict between society and the individual, that the former oppresses the latter and inhibits the full expression of individuality<sup>11</sup>. The truth is the other way around, Carr claims. It is society that makes the expression of the individual possible, and never before in the history of mankind has the possibility for individualization been greater than today. For one thing language is a social phenomenon, and one may argue that we define ourselves by language, and even become conscious through it. As Popper argues, sociology predates psychology, thus the former is not an application of the latter, rather the latter is made possible through the former, human societies are not made up of individuals, they make up individuals instead. As Popper speculates, social cohesion predates the emergence of modern man as a species, and thus becomes as a continued tradition part of the extra-genetical luggage. Carr does not delve into language, nor does he quote Popper, nor does he engage in grand speculation; but he emphasizes the importance of sociology and its intimate connection with history. This does not prevent him from being skeptical about the scientism of modern sociology, its spurious quantification, and its digression into technical triviality; what he suggests is that just as history should be more sociological, sociology should be more historical.

Does History have a meaning beyond itself? Could one detect a teleological purpose, or is it just in the words of Macbeth, a tale of sound and fury, told by an idiot, signifying nothing? The notion of progress is an obvious answer, and throughout the 19th century a generally accepted one. The 19th century did indeed exhibit momentous changes, relieved from the oppression of religion yet still inspired by it, and the first century that saw applications of science that actually involved the daily life of the many. It boosted the confidence of mankind, suggesting that there would be no end to improvement. Those were heady times, and Bertrand Russell admitted that he was never able to fully shed the Victorian optimism in which he had been reared. But this optimism was also a result of a limited imagination. The First World War changed that, and cultural pessimism became quite fashionable. Nowadays the notion of progress is dismissed as naive, just as there is no general trend in evolution, that can as well lead to simplification and degeneration as increased sophistication<sup>12</sup>, there is no guarantee that humans will approach a splendid future. During the second half of the past century the spectre of a nuclear holocaust were ever-present, threatening to destroy civilization, if not the human species altogether.

<sup>&</sup>lt;sup>11</sup> Freud speaks about the discomfort man experiences in society, and fantasies about an unfettered life without social restrictions, especially those imposed by taxation, are legion

 $<sup>^{12}</sup>$  the emergence of various parasites is a case in point

Nowadays such an apocalyptic vision has been replaced by the somewhat more benign prospects of Global Warming, as well as a growing realization that exponential growth does not provide a so called sustainable option, yet all conventional politics is geared towards a steady annual growth. Carr is committed to human history actually being one of eventual progress, and he identifies this progress as the increasing use of reason. Freud with his identification of irrational motives, actually far from exalting the irrational, as he has sometimes been accused of, increased the grasp of reason. Marx is another favorite of Carr, who confidently states that the era of laissez-faire is gone, planned economies have come to stay, indicating the decision no longer for it to abstain itself of responsibility for economics. I suppose that Carr, apparently cogent to the last, did at the every end of his life experience the revival of classical market-liberalism after a brief Keynesian flirtation.

Each period has its 'Zeitgeist' and historians are as much hostages to that as people in general. Thus whatever historical work says as much about the 'Zeit' itself as of the 'Zeit' ostensibly treated. Carr is no exception. His main work as a historian is a history of the Soviet-union published in fourteen volumes. Carr was a Marxist, class-conscious<sup>13</sup> and a believer in Socialism. Thus he surveyed the Soviet experiment with sympathy, and claimed that his imaginative identification with the movement made him a better historian of the subject than those who did not understand, let alone, share their ultimate goals. He certainly showed understanding for some of the Draconian measures taken by the regime, feeling that computations had to be made, eggs crushed to make an omelet, and that future good (such as wide-spread industrialization) justified brutal means. The idea of a social revolution was a dear one to him, and he mocks Poppers espousal of piecemeal reform, as that of a timid civil servant, who is content with tinkering with details, but would never question basic structures<sup>14</sup>.

One wonders in this context whether the same principle of imaginative re-enactment should be applied to a study of say Nazism as well. As it is, every author that treats the subject tries to convey his or her own distaste as strongly as possible, ideally to surpass in this regard previous writers and historians on the subject. Would it not be possible to treat Nazism as we do some natural phenomenon, without any moral elaboration, just letting the 'facts' speak for themselves in some neo-rankian fashion? Now the study of history, as opposed to that of nature, cannot make a clear distinction between the observer and what is observed. History is not a spectacle, as Collingwood reminds us of. Evans in his prefaces to his work on Nazism, make such ambitions of impartiality explicit in his prefaces, but when it comes to the actual work, he cannot refrain from showing his revulsion. The point is whether such an exalted viewpoint is even possible so close in time to the events. Maybe

<sup>&</sup>lt;sup>13</sup> He refers to a statement of Russell, to the effect that mans liberty has actually diminished in recent times, as a shocking reminder that Russell, all his rhetoric top boot, belonged to the upper classes and deeply identified by those, indifferent to the fact that while his own liberty may have shrunk. those of the great majority of men had theirs increased.

<sup>&</sup>lt;sup>14</sup> To Popper a revolution is a large experiment which potentially can have devastating consequences to large number of people. Social experiments are not like experiments in science, they involve not only the observer but also hapless others, and there is not the possibility of isolation. Thus Popper finds himself on moral grounds unable to view such bold strikes with indulgence. Carr certainly displays another kind of temperament.

we will have to wait a few generations. And an even more pertinent point is whether such an attitude of the historian would have any meaning, and not just become an exercise in pornography, after all no history is written without some explicit meaning having relevance to the present. There could emerge reasons in the future for treating at least some aspects of the Nazi-time impassioned, not in order to condone it (and Carr uses the expression 'imaginative reenaction' rather than the shorter 'sympathy' lest some measure of approval be suggested) but in order not to obscure the treatment<sup>15</sup>. To take an example. If we want to undertake a study of why it had such a popular appeal, our efforts will be stymied and the result incomprehensible, unless we have taken a 'sympathetic' approach. But mark, that such a 'sympathetic' approach does not necessarily entail sympathy in the usual, somewhat inaccurate, sense of the word, nor of course any approval. Its use has simply been instrumental.

As noted above, history is not just the same thing as the study of the past. There are many other worthwhile, as well as less so, studies concerned with the past. The forensic nature of a crime-investigation, although not usually of the historians concern, is a very striking and useful analogue of what serious historical scholarship should be about and thus offering valuable epistemological suggestions, as Collingwood has pointed out. The fascination with old objects (as illustrated by the enduring fascination of the public with such TV-programs such as Antique Roadshows testifies to) is clearly a matter of making into the past a kind of fetishism. Still it can foster useful skills as to the dating of artefacts, a skill more of a technical nature than a humanistic<sup>16</sup>. And then finally, history is about stories, good stories to be fashioned into narratives, and as such closely related to literature. Historians, Carr included, are rather dismissive of such aspects, while the public is hungry for them. Hence the upsurge of amateur historians getting a large attention, to the consternation of the professionals. Especially the writing of biographies combine the fascination of fetishism, human interest and well-defined narrative schemes, and has become hugely popular (as if it was not always so).

What is the point of history, especially as we are told that it teaches no lessons and can predict no future? Collingwood talks about its necessity in forming our identities, individual as well as collective. Carr is not quite so explicit about the uses and benefits of history, but clearly it is enough that the past exists, that we should be obsessed by it, as well as just as the present shows light on the past, we need the past to inform the present (which is pretty much the same argument as that of Collingwood).

<sup>&</sup>lt;sup>15</sup> That the issue is a sensitive one is illustrated by the denial of the Holocaust being a punishable offense in many countries, including not surprisingly Germany itself. Why not also making the claim for a flat Earth illegal as well as denying Darwinian evolution? Anything can be doubted in principle, including reality itself, but of course in the latter case, any punishment would be moot. That this law has set up some questionable precedent has been recently illustrated by a proposed law in Russia, making the criticism of the Red Army during the Great Patriotic War illegal, as well as questioning the competence and motivation among those who led it. In the proposal there are supposedly explicit references to the Holocaust law.

<sup>&</sup>lt;sup>16</sup> It is telling that when the hoax of the Hitler diaries was perpetrated back in 1983, the British Historian Trevor-Ropes was readily taken in, while it come to some lowly employees at the National Archives to reveal the rather clumsily conceived bluff.

In my own case I can trace my interest to history in learning about dates. Up to the age of six I had been aware of my own increasing age, providing my own intrinsic chronology, to suddenly realize that there was a collective reckoning, was a revelation, lifting myself out of a narrow groove. I learned the birth-years of my parents and grandparents, and the memory of that very occasion is still etched into my memory. With the structure of numbered time, powerful associations develop. That the 19th century was very different from the one I lived in became clear, and by induction the 18th and the 17th became even more intriguing. I saw pictures of the past, and it struck me as a very dark time (which literally was true before the advent of cheap indoor lightning) and scared me a bit. I became conscious of oblivion that threatens to engulf for ever the past, and I became curious as how much you could know about the past, and how to retard its inevitable disappearance. But history also provided stories, and it became my favorite subject during my early school-years. Swedish history of the 16th to the beginning of the 19th century was dramatic, and I was fascinated by the evolving topic. Everything our teacher told us I immediately absorbed and retained until this day<sup>17</sup> This is history as story, and also history to some extent as a myth to serve and generate patriotic feelings, and surely enough around the time of ten eleven I was more patriotic than ever before or later in life. Yet, in retrospect I am rather surprised and impressed with how much rather sophisticated material our old teacher was able to ride along, and I absorbed everything. When I have later revived my interest in Swedish history I have found little that I did not already know from my elementary school-days. (And people claim that the old school was pedagogically inferior and that it imparted useless knowledge for mindless memorization.) I certainly also got a smattering of the Classical stories, as well as the Biblical ones, but it was the drama of Swedish history that made the deepest impression on me. I never came into contact with the plays of Shakespeare when I was young, and hence they never provided that kind of archetypal stories that you retain with you as references for the rest of your life (as some of the classical fairy-tales came to do). But much of the drama of Swedish history filled that gap. Indeed the feuds between the sons of Gustavus Vasa are indeed Shakespearean material, and they live with me as a Shakespeare play might have done. It is of course bad history, or at least a questionable kind, with its emphasis on Kings and battles, traditional historical fare<sup>18</sup>. Yet, I was a child, and the child's conception of history is bound to be different from the discerning adult.

Pace the exalted view of a Collingwood, with which I have such a sympathy, history is learned through reading, involving a huge amount of facts and dates. There is no getting around it. In mathematics there is very little reading involved (in my case probably far too little). Mathematics is doing, solving problems, getting stuck. History is reading. Obviously in spite of my professional choice I have read many more pages in history than in mathematics (and marveled as to how little the mind is able to retain). But the contrast is a bit misleading, at the end of the day you need to do some reflection, be it based on

<sup>&</sup>lt;sup>17</sup> I have no difficulty listing all the Swedish Kings starting with Gustav Vasa 1521 up to the present one, a nobody to be sure, but that is the beauty of it. I have been surprised though that only a minority of Swedes would be able to do so.

<sup>&</sup>lt;sup>18</sup> An oft quoted saying of a Swedish 19th century poet and intellectual (Geijer) claims that the history of Sweden is that of its kings.

reading or doing. Supposedly by having read a large amount of historical fact you start to get a feeling, an ability to make a synthesis, maybe even to produce some historical writing on your own. Likewise extended exposure to mathematics and the solving of problems start to give you a feeling of what it is really about. Thus asymptotically the two activities may converge.

This leads one to address a natural conclusion of this essay, namely how to combine the two into history of mathematics. This is a largely undeveloped subject, still too much ensnared in mere compilation and anecdotes. Andre Weil during his twilight years made a concerted effort to launch the subject<sup>19</sup>. The problem was that he set up too many prerequisites to even start that he became daunted by them (not to mention prospective disciples). A history of mathematics has of course really nothing to do with mathematics as a Platonic entity, that has by its supposedly eternal nature no history, it has to do with mathematics as a humanistic endeavor, i.e. mathematics as it exist as a collective understanding. A historian of mathematics should foremost be a mathematician, because it is not primarily a matter of looking up documents and establishing priorities<sup>20</sup>, but one of surveying the mathematics which not only influenced activities, but brought about a real improvement in understanding. As far as I know, no such truly intellectual history of mathematics has even been attempted. Maybe it is too daunting a challenge, and the only ones capable of undertaking it would have better things to do.

History of mathematics is a legitimate undertaking, even if it would not primarily be concerned with the applications of mathematics to society at large, because the community of mathematicians do constitute a society on its own, and just as societies in general enable people to become individual, the mathematical community as such enables individuals to become mathematicians. The accumulation of mathematical knowledge, and the concomitant understanding, is indeed a collective treasure and a human construct indeed. Subjective as far as the community goes, but objective as far as the individual, just as Reuben Hersh has characterized mathematics as such, as opposed to the culture of mathematical activity and the ensuing mathematical understanding, that makes the activity worthwhile.

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 $<sup>^{19}\,</sup>$  Talking at the ICM in Helsinki 1978 on the subject how it should be written and undertaken.

 $<sup>^{20}</sup>$  It is a well-known phenomenon in mathematics that concepts and objects are not usually named after the original, almost a law so to speak, to which anyone is invited to attach their names. But really, who cares, except for matters of petty patriotism.