

Henri Arzeliès, une appréciation ‘américaine’

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I read with interest the obituary of Henri Arzeliès in your pages (Vol. 28, 2003, 271). As the ‘traducteur américain’ mentioned by M. Costa de Beauregard, I should like to add a few memories of Arzeliès from the 1960s and 1970s.

My schoolboy knowledge of French was considerably improved and, above all, modernized by a year as a Ph. D. student spent in the laboratory of the late Pierre Grivet. (My French master at school was regarded with suspicion by his colleagues for reading Simenon with us, “Le petit tailleur et le chapelier”, and above all, on one unforgettable occasion, for bringing a gramophone into the classroom and playing a song by Brassens.) At that time, Grivet’s lab occupied a floor in the building occupied by the EDF opposite the CEA establishment at Fontenay-aux-Roses, still a charming village with wisteria spilling over the walls and local worthies drowsing in the sunshine on the Place. With the encouragement of Pergamon Press, Grivet invited me to translate the two volumes of his *L’optique électronique*, extensively revised and, in some chapters, rewritten by Albert Septier. The translation was well received by the reviewers, with the result that Pergamon invited me to translate a number of other French books, thus providing a welcome addition to my modest post-doc income. It was in this way that I encountered Henri Arzeliès, first in the extensive correspondence generated by the translations and then in person when he came to London to meet his Pergamon editor. I regretted that the meeting was held in the London office of Pergamon Press (in Berkely Square, if my memory is correct, a very smart address) and not in Oxford, where the Press occupied Headington Hill Hall, with its extensive park and the probability of a few minutes conversation with Robert Maxwell, founder of the Press, as yet little

known outside publishing circles.

Arzeliès' prose style and vocabulary further improved my French; M. Costa de Beauregard speaks of his 'ton didactique' and 'approche décontractée' but these are far from doing justice to the liveliness and verve of his writing. This is particularly apparent in *Relativistic Point Dynamics* (1972), the English translation of a heavily revised and extended version of the two volumes of *Dynamique relativiste* (1957, 1958). The long Preface (xxxvi pages), which seems rather rambling and woolly today though such discursive introductions were much more common half a century ago, contains innumerable splendid Arzelièsiana. Here he has his on 'intellectual infantilism': "I have read somewhere that the Buddha already regarded metaphysics as 'a footpath of opinions, a thicket of opinions, a jungle of opinions ...' We can go further. The natural sciences and the social sciences, a rough school of modesty, have taught us that our intellect is, if left to itself, totally powerless before the simplest problems. Nevertheless, there are still many metaphysicians obstinately trying to find a general interpretation of the Universe by this route alone. Their preoccupations and assertions are worth no more than those of astrologers. The modern profusion of astrologers, healers and metaphysicians (of the kind I am talking about) is a disquieting sign of a collective intellectual infantilism. To all of you, professors and doctors, political panjandruns and academic pontiffs, proud and smug with your ideological hobby-horses, one single piece of advice: reflect on chapters XVIII, XIX and XX of Rabelais' *Pantagruel*. The sense of the ridiculous can still save us from tyrannies. Let us understand one another clearly. *A priori*, I do not deny the utility of research in these topics. *A priori*, I do not even deny that the position of the planet Mars may have some influence on the potato crop, the Stock Exchange or the election of a F.R.S. Improbable it may be, but all *a priori* negation is to be eschewed. I merely say that the methods employed, which were acceptable and even useful 300 years ago ... have become ridiculous, given our present-day knowledge. They can be blamed upon too strict a segregation of the various branches of research, and hence upon ignorance." And later, a favourite paragraph, which I give in both French and English: "When, as a schoolboy, I read for the first time some of Rimbaud's poems or Nietzsche's *Zarathoustra*, I was acutely sensitive to the poignant beauty of these writings. My intelligence, however, was not involved at all, and when some of my schoolfriends asked what this or that phrase meant, I was unable to reply. I did not understand these lines at all, and I

realised this (What are you reading it for, then? You're batty!). Today, the "Bateau ivre", "Voyelles" or "Das Nachtlied" are no longer shadowy in places, and this illusion of clarity is none other than long familiarity". "Jeune collégien, lisant pour la première fois certains poèmes de Rimbaud ou le *Zarathoustra* de Nietzsche, je subissais de façon aiguë la poignante beauté de ces textes. Mais mon intelligence ne semblait jouer aucun rôle, et j'étais incapable de répondre aux questions de certains de mes camarades : qu'est-ce que ça veut dire? Je ne comprenais rien à ces textes et je le reconnaissais (Alors pourquoi tu lis ça? Tu es cinglé!) Aujourd'hui le "Bateau ivre", les "Voyelles" ou le "Chant de la Nuit" n'ont plus pour moi de zones d'ombre et cette illusion de clarté n'est autre chose qu'une longue habitude". Not only did they think him "cinglé" but elsewhere in one of the books, he is told "tu gnoognottes, Arzeliers" but alas I cannot find the reference! One last quotation from this same preface, lest the above give an impression of frivolity: "The reader had to be forewarned, especially the reader familiar with electromagnetic theory. The development in this book will surprise him. The majority of the questions which he had thought to be purely electromagnetic ... are in fact all purely mechanical concepts. *Even Maxwell's equations are equations of mechanics*; returned to their proper place, they are seen in quite a new light, and their import is much more exactly determined. This reconstruction has given me a great deal of pleasure, as I watched the mechanical part grow and the electromagnetic part dwindle. The reader who is prepared to accord me a few day's work will make no complaint. The alterations that he will have to make to some of his habits will be more than compensated by the new features that he will encounter in the landscape, however familiar. He will experience a sense of mental relief, a spiritual repose akin to that of the archaeologist who, after painful exploration of the various sections of some dead city deep in the virgin forest, is finally able to fly over the site and sees the general plan revealed (Angkor is a particularly striking instance of this). A simple guiding idea that coordinates the sparse facts, the fragmentary theories, and provides a welcome alleviation for the brain; furthermore, neglected problems are brought into the open, and avenues for exploration open up before the investigator."

Another remarkable feature of his books is the annotated bibliographical material. The lists of references display a dazzlingly complete familiarity not only with the literature of relativity but also with that of the branches of physics to which it is being applied: electricity, ther-

modynamics and several others. After many of the references, we have Arzeliers' rejoinders and comments - a single example will give the flavour of these: "Finally, for the reader's amusement, this is what I find under the headings "force" and "mass" in the *Vocabulaire Philosophique* of La-lande" [Presses Universitaires, 1st ed., 1902-1923; 6th ed., 1951]. Nine lines of definition follow, after which Arzeliers comments "Thus force is defined in terms of mass and mass of force! This reminds me of the pleasure I felt as a schoolboy when I found such definitions in the dictionary as *Pear*: fruit of the pear-tree; *Pear-tree*, the tree that produces pears. I shall never accustom myself to the small importance that philosophers attach to the meanings of scientific terms. In these times of materialistic technology, it is ever more necessary to read and digest philosophical and metaphysical writings; a strong dose of patience and good temper is required to put up with and adapt them, however,"

One last comment, on the list of publications given by M Costa de Beauregard. The 'Etudes relativistes' in fact filled six volumes: *La cinématique relativiste*, *La dynamique relativiste et ses applications* (2 vols), *Milieux conducteurs et polarisables en mouvement* and *Relativité généralisée. Gravitation* (2 vols). The full title of 'Electricité' is *Electricité macroscopique et relativiste* and that of 'Rayonnement ...' is *Rayonnement et dynamique du corpuscule chargé fortement accéléré*. There was also a volume on *Thermodynamique relativiste et quantique* (Gauthier-Villars, 1967) and two further volumes were "In preparation" for Masson in 1972 but were never, as far as I know, published: *Thermohydrodynamique irréversible* and *Dynamique relativiste des particules multipolaires*. Do dusty manuscripts of these exist somewhere among Arzeliers' papers? It would be interesting to know how far he got with these difficult topics.

The world has lost one of its more colourful figures, a formidable debater and polemicist and a very scholarly scientist. He had a word to say about savants [scholars] too. After quoting Montaigne, "La difficulté est une monnoye que les sçavants employent, comme des joueurs de passe-passe, pour ne découvrir la vanité de leur art", he writes "Let me not be accused of want of modesty in classing myself among the 'scholars'. Today, scholars clutter the streets. Do we not see in the newspapers that hundreds, even thousands of scholars frequently assemble at specialized scientific congresses?"