

**REFLECTIONS ON THE
DECLINE OF SCIENCE
IN ENGLAND, AND ON
SOME OF ITS CAUSES**

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Reflections on the Decline of Science in England, and on Some of Its Causes by Charles Babbage

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S.H. 1830

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DECLINE OF SCIENCE IN ENGLAND,

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SOME OF ITS CAUSES.

BY

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PREFACE.

OF the causes which have induced me to print this volume I have little to say; my own opinion is, that it will ultimately do some service to science, and without that belief I would not have undertaken so thankless a task. That it is too true not to make enemies, is an opinion in which I concur with several of my friends, although I should hope that what I have written will not give just reason for the permanence of such feelings. On one point I shall speak decidedly, it is not connected in any degree with the calculating machine on which I have been engaged; the causes which have led to it have been long operating, and would have produced this result whether I had ever speculated on that subject, and whatever might have been the fate of my speculations.

If any one shall endeavour to account for the opinions stated in these pages by ascribing them to any imagined circumstance peculiar to myself, I think he will be mistaken. That science has long been neglected and declining in England, is not an opinion originating with me, but is shared by many, and has been expressed by higher authority than mine. I shall offer a few notices on this subject, which, from their scattered position, are unlikely to have met the reader's

attention, and which, when combined with the facts I have detailed in subsequent pages, will be admitted to deserve considerable attention. The following extract from the article Chemistry, in the *Encyclopædia Metropolitana*, is from the pen of a gentleman equally qualified by his extensive reading, and from his acquaintance with foreign nations, to form an opinion entitled to respect. Differing from him widely as to the cause, I may be permitted to cite him as high authority for the fact.

"In concluding this most circumscribed outline of the History of Chemistry, we may perhaps be allowed to express a faint shade of regret, which, nevertheless, has frequently passed over our minds within the space of the last five or six years. Admiring, as we most sincerely do, the electro-magnetic discoveries of Professor Oersted and his followers, we still, as chemists, fear that our science has suffered some degree of neglect in consequence of them. At least, we remark that, during this period, good chemical analyses and researches have been rare in England; and yet, it must be confessed, there is an ample field for chemical discovery. How scanty is our knowledge of the suspected fluorine! Are we sure that we understand the nature of nitrogen? And yet these are amongst our elements. Much has been done by Wollaston, Berzelius, Guy-Lussac, Thenard, Thomson, Prout, and others, with regard to the doctrine of definite proportions; but there yet remains the Atomic Theory. Is it a representation of the laws of nature, or is it not?"--CHEMISTRY, *Encyc. Metrop.* p. 598.

When the present volume was considerably advanced, the public were informed that the late Sir Humphry Davy had commenced a work, having the same title as

the present, and that his sentiments were expressed in the language of feeling and of eloquence. It is to be hoped that it may be allowed by his friends to convey his opinions to posterity, and that the writings of the philosopher may enable his contemporaries to forget some of the deeds of the President of the Royal Society.

Whatever may be the fate of that highly interesting document, we may infer his opinions upon this subject from a sentiment expressed in his last work:—

“—But we may in vain search the aristocracy now for philosophers.”—“There are very few persons who pursue science with true dignity; it is followed more as con-
nected with objects of profit than those of fame.”—*Sir H. Davy's Consolations in Travel.*

The last authority which I shall adduce is more valuable, from the varied acquirements of its author, and from the greater detail into which he enters.

“ We have drawn largely, both in the present Essay, and
“ in our article on LIQOR, from the *Annales de Chimie*, and
“ we take this *only* opportunity distinctly to acknowledge
“ our obligations to that most admirably conducted work.
“ Unlike the crude and undigested scientific matter which
“ suffices, (we are ashamed to say it) for the monthly and
“ quarterly amusement of our own countrymen, whatever
“ is admitted into its pages, has at least been taken pains
“ with, and, with few exceptions, has sterling merit. In-
“ deed, among the original communications which abound in
“ it, there are few which would misbecome the first aca-
“ demical collections; and if any thing could diminish our
“ regret at the long suppression of those noble memoirs, which
“ are destined to adorn future volumes of that of the Insti-
“ tute, it would be the masterly abstracts of them which

“ from time to time appear in the *Annales*, either from the
“ hands of the authors, or from the reports rendered by the
“ committees appointed to examine them; which latter,
“ indeed, are universally models of their kind, and have
“ contributed, perhaps more than any thing, to the high
“ scientific tone of the French *savans*. What author, indeed,
“ but will write his best, when he knows that his work, if
“ it have merit, will immediately be reported on by a com-
“ mittee, who will enter into all its meaning; understand it,
“ however profound: and, not content with *merely* under-
“ standing it, pursue the trains of thought to which it leads;
“ place its discoveries and principles in new and unexpected
“ lights; and bring the whole of their knowledge of col-
“ lateral subjects to bear upon it. Nor ought we to omit
“ our acknowledgments to the very valuable Journals of Pog-
“ gendorff and Schweigger. Less exclusively national than
“ their Gallic compeer, they present a picture of the actual
“ progress of physical science throughout Europe. Indeed,
“ we have been often astonished to see with what celerity
“ every thing, even moderately valuable in the scientific
“ publications of this country, finds its way into their pages.
“ This ought to encourage our men of science. They have
“ a larger audience, and a wider sympathy than they are
“ perhaps aware of; and however disheartening the general
“ diffusion of smatterings of a number of subjects, and the
“ almost equally general indifference to profound knowledge
“ in any, among their own countrymen, may be, they may
“ rest assured that not a fact they may discover, nor a good
“ experiment they may make, but is instantly repeated,
“ verified, and commented upon, in Germany, and, we may
“ add too, in Italy. We wish the obligation were mutual.
“ Here, whole branches of continental discovery are un-
“ studied, and indeed almost unknown, even by name. It is
“ in vain to conceal the melancholy truth. We are fast
“ dropping behind. In mathematics we have long since
“ drawn the rein, and given over a hopeless race. In che-
“ mistry the case is not much better. Who can tell us any

“ thing of the Sulfo-salts? Who will explain to us the laws
“ of Isomorphism? Nay, who among us has even verified
“ Thenard’s experiments on the oxygenated acids,—Oersted’s
“ and Berzelius’s on the radicals of the earths,—Balard’s
“ and Serrulas’s on the combinations of Brome,—and a
“ hundred other splendid trains of research in that fas-
“ cinating science? Nor need we stop here. There are,
“ indeed, few sciences which would not furnish matter for
“ similar remark. The causes are at once obvious and
“ deep-seated; but this is not the place to discuss them.”—
*Mr. HERSCHELL’S Treatise on Sound, printed in the Encyclo-
pædia Metropolitana.*

With such authorities, I need not apprehend much doubt as to the fact of the decline of science in England: how far I may have pointed out some of its causes, must be left to others to decide.

Many attacks have lately been made on the conduct of various scientific bodies, and of their officers, and severe criticism has been lavished upon some of their productions. Newspapers, Magazines, Reviews, and Pamphlets, have all been put in requisition for the purpose. Odium has been cast upon some of these for being anonymous. If a fact is to be established by testimony, anonymous assertion is of no value; if it can be proved, by evidence to which the public have access, it is of no consequence (for the cause of truth) who produces it. A matter of opinion derives weight from the name which is attached to it; but a chain of reasoning is equally conclusive, whoever may be its author.

Perhaps it would be better for science, that all criticism should be avowed. It would certainly have the