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978-1-108-05253-5 - The Exposition of 1851: Or, Views of the Industry, the Science, and the Government, of England

Charles Babbage

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The Exposition of 1851

Charles Babbage (1791–1871), one of the most original thinkers of the nineteenth century, is best remembered as the pioneer of computing technology, but he also made significant contributions to mathematics, mechanical engineering, philosophy and political economy. This book, first published in 1851, is an example of his active and effective campaigning for the role of scientists and the place of science, technology and technical education in society. Ahead of his time, Babbage was critical of government and the scientific community for not valuing science and technology in education. The work develops these themes, using the Great Exhibition as a backdrop to highlight the political and cultural factors that can impede scientific and technological progress. Britain's industrial supremacy, he argued, disguised the need to develop technical education. As relevant and persuasive today as in 1851, Babbage's arguments emphasise the fundamental importance of technology to the advancement of society.

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Frontmatter

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Frontmatter
[More information](#)

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[More information](#)

THE EXPOSITION
OF
1851;
OR,
VIEWS OF THE INDUSTRY,
THE SCIENCE, AND THE GOVERNMENT,
OF ENGLAND.

BY
CHARLES BABBAGE, ESQ.
CORRESPONDING MEMBER OF THE ACADEMY OF MORAL SCIENCES
OF THE INSTITUTE OF FRANCE.

SECOND EDITION, WITH ADDITIONS.

LONDON:
JOHN MURRAY, ALBEMARLE STREET.
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Frontmatter
[More information](#)

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Charles Babbage

Frontmatter

[More information](#)

P R E F A C E
TO THE FIRST EDITION.



ENGLAND has invited the civilized world to meet in its great commercial centre; asking it, in friendly rivalry, to display for the common advantage of all, those objects which each country derives from the gifts of nature, and on which it confers additional utility by processes of industrial art.

This invitation, universally accepted, will bring from every quarter a multitude of people greater than has yet assembled in any western city: these welcome visitors will enjoy more time and opportunity for observation than has ever been afforded on any previous occasion. The statesman and the philosopher, the manufacturer and the merchant, and all enlightened observers of human nature, may avail themselves of the opportunity afforded by their visit to this Diorama of the Peaceful Arts,

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Frontmatter

[More information](#)

for taking a more correct view of the industry, the science, the institutions, and the government of this country. One object of these pages is, to suggest to such inquirers the agency of those deeper-seated and less obvious causes which can be detected only by lengthened observation, and to supply them with a key to explain many of the otherwise incomprehensible characteristics of England.

Who, for instance, could have conceived that England, after making unexampled efforts for the adoption of “*Free Trade*,” should be the first nation to prohibit* its very basis, “*competition*,” at the world’s great bazaar?

This country is fortunate in having on the Western Continent, a great nation derived from the same common stock, speaking the same language, sharing the same feelings, but fortunately not partaking the same *prejudices*. Proud of the only ancestry which is not contemptible, it glories in the genius and the virtues of our common forefathers, and in its young ambition now strives in science and in literature, to prove itself *their* worthy descendants—*our own* generous rivals.

* See Chapter on Prices.

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978-1-108-05253-5 - The Exposition of 1851: Or, Views of the Industry, the Science, and the Government, of England

Charles Babbage

Frontmatter

[More information](#)

PREFACE.

vii

Separated from us by an intervening ocean, the judgment of America is not obscured by the repulsion or the fascination of personal manners,—by the tales of jealous rivals or enthusiastic friends. It can thus, as it were, anticipate for us the decision of posterity upon the reputation of those English writers who have never visited her shores. Many foreigners speaking other tongues, whose researches in industrial, economical, and physical science, have conferred honour on their own country, now visit ours. These and their congenial spirits throughout the world, sit in judgment on the *prejudices* of England, and will, if I mistake not, find ample reason to agree with the Danish statesman in the opinion,—that great nations are often governed by very small people.

England has invited the judgment of the world upon its *Arts* and its *Industry*;—science appeals to the same tribunal against its *ingratitude* and its *injustice*.

Several friends whose esteem I prize, have urged me to avoid everything personal,—some even to suppress this volume. I value their friendship, whilst I reject their counsel. In illustrating the

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Charles Babbage

Frontmatter

[More information](#)

viii

PREFACE.

position of science in this country, it would have been affectation not to have mentioned the Calculating Engines. Who else *could* have fully known, — who else *would* have fully told their history?

It has been suggested to me that, to select *individual* examples for illustration, is personality. To have made general charges without them, would have been termed *vague*, and would certainly have been *useless*. It still however appears to me that a *single* illustration in each case, would cause the least pain, and might yet be sufficient for the purpose. If it is thought otherwise the remedy is easy.

The facts stated in the following pages are not drawn from any violation of the confidences of private society : those whose names are mentioned, are paid by the nation, and therefore responsible to their employers. Against them I have no personal feeling ; their official acts are necessarily mentioned as parts of the system to which they belong.

The remark most frequently made has been, “ that the publication of this volume will do me injury.” This opinion is indeed a severer censure on the conduct of the government than any I have myself pronounced. I do not agree in it, for I know of

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978-1-108-05253-5 - The Exposition of 1851: Or, Views of the Industry, the Science, and the Government, of England

Charles Babbage

Frontmatter

[More information](#)

PREFACE.

ix

no injury within the power of those who have never given me a single occasion for gratitude.

Bad men always hate those they have injured ;— Good or great men, when they have discovered that they have been unjust, always more than repair the injury they have committed.

Those who, from an acquaintance with the case, can truly interpret this volume, will *know* that I have abstained ; they will *see* that I possess the power, though not the disposition, to avenge injury. But the same spirit which has carried me through difficulties few have encountered, at the expense of sacrifices which I hope fewer may ever be called upon to make, forbids me tamely to submit to injustice.

The reader of these pages will observe that I have exposed with an unsparing pen the dishonesty of party. The modes employed by it to “ discredit” and intimidate an honest man are various.

If he agree with them in a principle, but differ in its application, he is called “ *crotchety*.” If he cannot be induced by sophistry to vote with them against his sense of right, he is called “ *impracticable*.” If, when passed over in the appointment

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Charles Babbage

Frontmatter

[More information](#)

X

PREFACE.

to some office for which he is qualified by knowledge and entitled by position, he complain of the neglect ; notwithstanding he continues to vote with his party, he is called a “ *disappointed man*.” If, however, he has energy, and is backed by great political or professional interest, he may then secure a *present* peerage for himself, his wife, or his relative, with a promise of better treatment when anything desirable becomes vacant.

At last, having discovered that his party are sincere and united only in their desire to retain office ; if his arguments admit of no refutation,—if his perception of right can be obscured by no sophistry,—if he can himself be cajoled by no flattery, seduced by no advantage, deterred by no intimidation, from expressing his real opinion upon the merits of his party : then, although he may support them whenever they are true to their principles, yet he is pronounced a “ *cantankerous fellow*.” Thus bad names are coined by worse* men to destroy honest people ; as the madness of innocent dogs arises from the cry of insanity raised by their villanous pursuers.

* “ A bad old woman making a worse will.”—BYRON.

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978-1-108-05253-5 - The Exposition of 1851: Or, Views of the Industry, the Science, and the Government, of England

Charles Babbage

Frontmatter

[More information](#)

PREFACE.

xi

The merit of the original conception of the present Exposition is insignificant in comparison with that of the efforts by which it was carried out, and with the importance of its practical results.

To have seen from afar its effects on the improvement, the wealth, and the happiness of the people—to have seized the fit moment, when, by the right use of the influence of an exalted station, it was *possible* to overcome the deeply-rooted prejudices of the upper classes—to remove the still more formidable, because latent, impediments of party—generously to have undertaken great responsibility, and with indefatigable labour to have endeavoured to make the best out of the only materials at hand,—these are endowments of no ordinary kind.

To move in any rank of society an exception to its general rules, is a very difficult, and if accompanied by the consciousness of the situation, a very painful position to a reflecting mind.

Whatever may be the cause, whether exalted rank, unbounded wealth, surpassing beauty, or unrivalled wit,—the renown of daring deeds, the magic of a world-wide fame; to all within those narrow limits the dangers and the penalties are

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Frontmatter

[More information](#)

great. Each exists an isolated spirit; each, unconsciously imprisoned within its crystal globe, perceives the colours of all external objects modified by those tints imparted to them by its own surrounding sphere. No change of view can teach it to rectify this partial judgment; throughout its earthward course the same undying rainbow attends to the last its parent drop.

Rarely indeed can some deep-searching mind, after long comparison, perceive the real colours of those translucent shells which encompass kindred spirits; and thus at length enable him to achromatise the medium which surrounds his own. To one who has thus rectified the “colour-blindness” of his intellectual vision, how deep the sympathy he feels for those still involved in that hopeless obscurity from which he has himself escaped. None can so justly appreciate that sense of loneliness, that solitude of mind, which surrounds unquestioned eminence on its lofty throne;—none, therefore, can make so large an allowance for its errors;—none so skilfully assist in guiding its hazardous career.

The triumph of the industrial arts will advance the cause of civilization more rapidly than its

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Charles Babbage

Frontmatter

[More information](#)

PREFACE.

xiii

warmest advocates could have hoped, and contribute to the permanent prosperity and strength of the country, far more than the most splendid victories of successful war. The influences thus engendered, the arts thus developed, will long continue to shed their beneficent effects over countries more extensive than those which the sceptre of England rules.

P.S.—The greater part of this Work was in type some time previous to the opening of the Exposition:—it would be of no interest to the public to explain the cause of this delay.

NOTE ADDED TO THE SECOND EDITION.

It has been suggested to me that, without some explanation, the Author of this Volume might appear to have reserved his opinions on the subject of the Exposition, until it was too late for the Commission to make use of them. This was not the case.

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Frontmatter

[More information](#)

Being fully aware of the importance of such exhibitions, and having myself, many years before, endeavoured to connect them with the British Association, I hailed the announcement of the plan as one calculated to produce the most extensive good. At that period I was in Paris, and both abroad and at home I have uniformly spoken of the Exposition with the highest approbation.

On one or two points I differed entirely from the opinion of those to whom its management was confided. The questions of the *site of the building*, and of *affixing prices to articles exhibited*, were the most important of them. I took the earliest opportunity of expressing strongly my views on those subjects to several personal friends who were members of that Commission, nor did I ever fail to communicate through the fittest channel any circumstance I became acquainted with which might advance its interests.

CONTENTS.

CHAPTER I.

INTRODUCTION	PAGE 1
------------------------	-----------

CHAPTER II.

ERROR RESPECTING THE INTERCHANGE OF COMMODITIES	7
---	---

CHAPTER III.

OF SOCIETIES	12
------------------------	----

CHAPTER IV.

ORIGIN OF THE EXPOSITION OF 1851	26
--	----

CHAPTER V.

OBJECT AND USE OF THE EXPOSITION	42
--	----

CHAPTER VI.

LIMITS	48
------------------	----

CHAPTER VII.

SITE AND CONSTRUCTION OF BUILDING	55
---	----

CHAPTER VIII.

PRICES	64
------------------	----

Cambridge University Press
978-1-108-05253-5 - The Exposition of 1851: Or, Views of the Industry, the Science, and
the Government, of England
Charles Babbage
Frontmatter
[More information](#)

xvi	CONTENTS.
	CHAPTER IX.
PRIZES	PAGE 99
	CHAPTER X.
JURIES, ETC.	112
	CHAPTER XI.
ULTERIOR OBJECTS	125
	CHAPTER XII.
INTRIGUES OF SCIENCE	149
	CHAPTER XIII.
CALCULATING ENGINES	173
	CHAPTER XIV.
POSITION OF SCIENCE	189
	CHAPTER XV.
THE PRESS	202
	CHAPTER XVI.
PARTY	209
	CHAPTER XVII.
REWARDS OF MERIT	220
	APPENDIX.
THE ELEVENTH CHAPTER OF MR. WELD'S HISTORY OF THE ROYAL SOCIETY	251