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This landmark work chronicles the origin and evolution of solid state physics, which grew to maturity between 1920 and 1960. The book examines the early roots of the field in industrial, scientific and artistic efforts and traces them through the 1950s, when many physicists around the world recognized themselves as members of a distinct subfield of physics research centered on solids. The book opens with an account of scientific and social developments that preceded the discovery of quantum

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mechanics, including the invention of new experimental means for studying solids and the establishment of the first industrial laboratories. The authors set the stage for the modern era by detailing the formulation of the quantum field theory of solids. The core of the book examines six major themes: the band theory of solids; the phenomenology of imperfect crystals; the puzzle of the plastic properties of solids, solved by the discovery of dislocations; magnetism; semiconductor physics; and collective phenomena, the context in which old puzzles such as superconductivity and superfluidity were finally solved. All readers interested in the history of

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science will find this absorbing volume an essential resource for understanding the emergence of contemporary physics.

It is generally believed that doing science means accumulating empirical data with no or little reference to the interpretation of the data based on the scientist ' s theoretical framework or presuppositions. Holton (1969a) has deplored the widely accepted myth (experimenticism) according to which progress in science is presented as the inexorable result of the pursuit of logically sound conclusions from un- biguous experimental data. Surprisingly, some of the leading scientists themselves (Millikan is a good

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example) have contributed to perpetuate the myth with respect to modern science being essentially empirical, that is carefully tested experim- tal facts (free of a priori conceptions), leading to inductive generalizations. Based on the existing knowledge in a field of research a scientist formulates the guiding assumptions (Laudan et al. , 1988), presuppositions (Holton, 1978, 1998) and “ hard core ” (Lakatos, 1970) of the research program that constitutes the imperative of presuppositions, which is not abandoned in the face of anomalous data. Laudan and his group consider the following paraphrase of Kant by Lakatos as an important guideline: philosophy

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of science without history of science is empty. Starting in the 1960s, this “ historical school ” has attempted to redraw and replace the positivist or logical empiricist image of science that dominated for the first half of the twentieth century. Among other aspects, one that looms large in these studies is that of “ guiding assumptions ” and has considerable implications for the main thesis of this monograph (Chapter 2).

The Chemical News and Journal of Physical Science  
History of Acquisition in the Department of Defense, Volume 1  
Key-words-in-context Title Index  
Bulletin of the National Research Council

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Cumulative listing

Dynamics of Scientific Progress

This volume is a history of the acquisition of major weapon systems by the United States armed forces from 1945 to 1960, the decade and a half that spanned the Truman and Eisenhower administrations following World War II. These instruments of warfare—aircraft, armored vehicles, artillery, guided missiles, naval vessels, and supporting electronic systems—when combined with nuclear warheads, gave the postwar American military unprecedented deterrent and striking power.<sup>1</sup> They were also

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enormously expensive. The volume is organized chronologically, with individual chapters addressing the roles of OSD, the Army, Navy, and Air Force in two distinct periods. The first, roughly coinciding with President Truman's tenure, covers the years from the end of World War II through the end of the Korean War in 1953. The second spans the two terms of the Eisenhower presidency from 1953 through early 1961. The year 1953 marked a natural breakpoint between the two periods. The Korean War had ended. President Eisenhower and his defense team began

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implementing the “New Look,” a policy and strategy based on nuclear weapons, which they believed would provide security and make it possible to reduce military spending. The New Look’s stress on nuclear weapons, along with the deployment of the first operational guided missiles and the rapid advances subsequently made in nuclear and missile technology, profoundly influenced acquisition in the services throughout the 1950s and the remainder of the century. As used in this study, the term “acquisition” encompasses the activities by which the United



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States obtains weapons and other equipment. In surveying the history of acquisition between 1945 and 1960, this study discusses or refers in passing to many of the hundreds of weapon system programs initiated by the services in that period, but it is not a weapons encyclopedia. Instead, it investigates a few major programs in depth in the belief that such detailed examination best reveals the evolution of acquisition policies, organizations, and processes, and the various forces influencing weapons programs. From April through December of

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1945, ten of Nazi Germany's greatest nuclear physicists were detained by Allied military and intelligence services in a kind of gilded cage at Farm Hall, an English country manor near Cambridge. The physicists knew the Reich had failed to develop an atomic bomb, and they soon learned, from a BBC radio report on August 6, that the Allies had succeeded in their own efforts to create such a weapon. But what they did not know was that many of their meetings and private conversations were being monitored and recorded by British agents. This book contains the complete collection

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of transcripts that were made from these secret recordings, providing an unprecedented view of how the German scientists, including two Nobel Laureates, thought and spoke about their roles during the war.

Catalogue of British Official Publications Not Published by HMSO.

Permafrost

Research Summary

Out of the Crystal Maze

Soviet Avalanche Research

***A highly readable history of the University of Melbourne that examines its growth from a small provincial***

***institution, educating the elite of a relatively narrow society, to a major teaching and research institution - changes of a magnitude which could never have been envisaged in 1935 when the story begins.***

***The Second Creation is a dramatic--and human--chronicle of scientific investigators at the last frontier of knowledge. Robert Crease and Charles Mann take the reader on a fascinating journey in search of "unification" with brilliant scientists such as Niels***

***Bohr, Max Planck, Albert Einstein, Erwin Schrödinger, Richard Feynman, Murray Gell-Mann, Sheldon Glashow, Steven Weinberg, and many others. They provide the definitive and highly entertaining story of the development of modern physics, and the human story of the physicists who set out to find the "theory of everything."***

***Engineering Vulnerability  
Rand Memoranda  
Why Iraq and Libya Failed to  
Build Nuclear Weapons  
U.S. Government Research  
Reports***

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## ***Serials Holdings***

### ***Nuclear Science Abstracts***

Contains the full texts of all Tax Court decisions entered from Oct. 24, 1942 to date, with case table and topical index.

Keeping the lights On : Nuclear, renewables and climate change, sixth report of session 2005-06, Vol. 3:

Written Evidence

Restructuring Of Physical Sciences In Europe And The United States - 1945-1960, The - Proceedings Of The International Conference

Scientific and Technical Aerospace Reports

Final Report: Sources and documentation

Creativity in Research and Invention in the Physical Sciences

A Place Apart

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CHEMISTRY; ENGINEERING  
SYMBIOLOGY; MATERIAL  
SCIENCE; MECHANICAL  
SCIENCE; AND NUCLEAR  
PHYSICS AND REACTOR THEORY

**Keeping the Lights  
on Nuclear, Renewables and  
Climate Change; Sixth Report  
of Session 2005-06**  
The  
Stationery Office  
NSA is a comprehensive  
collection of international  
nuclear science and

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technology literature for the period 1948 through 1976, pre-dating the prestigious INIS database, which began in 1970. NSA existed as a printed product (Volumes 1-33) initially, created by DOE's predecessor, the U.S. Atomic Energy Commission (AEC). NSA includes citations to scientific and technical reports from the AEC, the U.S. Energy Research and Development Administration and its contractors, plus other agencies and international organizations, universities, and industrial and research organizations. References to books, conference proceedings,



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papers, patents,  
dissertations, engineering  
drawings, and journal  
articles from worldwide  
sources are also included.  
Abstracts and full text are  
provided if available.  
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In Pursuit of Climate  
Adaptation  
NOAA Technical Memorandum  
NOS OMA.

When Archibald Liversidge first

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arrived at Sydney University in 1872 as reader in geology and assistant in the laboratory he had about ten students and two rooms in the main building. In 1874 he became professor of geology and mineralogy and by 1879 he had persuaded the senate to open a faculty of science. He became its first dean in 1882. Liversidge also played a major role in the setting up of the Australasian Association for the Advancement of Science which held its first congress in 1888. For anyone interested in Archibald Liversidge, his contribution to crystallography, mineral chemistry, chemical

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geology, strategic minerals policy and a wider field of colonial science.

Many authoritarian leaders want nuclear weapons, but few manage to acquire them.

Autocrats seeking nuclear weapons fail in different ways and to varying degrees—Iraq almost managed it; Libya did not come close. In *Unclear Physics*, Målfrid Braut-Hegghammer compares the two failed nuclear weapons programs, showing that state capacity played a crucial role in the trajectory and outcomes of both projects. Braut-Hegghammer draws on a rich set of new primary sources,

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collected during years of research in archives, fieldwork across the Middle East, and interviews with scientists and decision makers from both states. She gained access to documents and individuals that no other researcher has been able to consult. Her book tells the story of the Iraqi and Libyan programs from their origins in the late 1950s and 1960s until their dismantling. This book reveals contemporary perspectives from scientists and regime officials on the opportunities and challenges facing each project. Many of the findings challenge the conventional wisdom about

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clandestine weapons programs in closed authoritarian states and their prospects of success or failure. Braut-Hegghammer suggests that scholars and analysts ought to pay closer attention to how state capacity affects nuclear weapons programs in other authoritarian regimes, both in terms of questioning the actual control these leaders have over their nuclear weapons programs and the capability of their scientists to solve complex technical challenges.

Rearming for the Cold War,  
1945-1960

Nuclear, Renewables and

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Climate Change; Sixth Report of  
Session 2005-06

Imperial Science under the  
Southern Cross

Tax Court Memorandum

Decisions

A Bibliography, 1978-1982

Makers of the Revolution in  
Twentieth-century Physics

In Engineering Vulnerability Sarah E.

Vaughn examines climate adaptation  
against the backdrop of ongoing  
processes of settler colonialism and the  
global climate change initiatives that  
seek to intervene in the lives of the  
world's most vulnerable. Her case study  
is Guyana in the aftermath of the 2005  
catastrophic flooding that ravaged the  
country's Atlantic coastal plain. The  
country's ensuing engineering projects

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reveal the contingencies of climate adaptation and the capacity of flooding to shape Guyanese expectations about racial (in)equality. Analyzing the coproduction of race and vulnerability, Vaughn details why climate adaptation has implications for how we understand the past and the continued human settlement of a place. Such understandings become particularly apparent not only through experts' and ordinary citizens' disputes over resources but in their attention to the ethical practice of technoscience over time. Approaching climate adaptation this way, Vaughn exposes the generative openings as well as gaps in racial thinking for theorizing climate action, environmental justice, and, more broadly, future life on a warming planet. Duke University Press Scholars of Color First Book Award recipient

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Like Bohr, Einstein and Heisenberg, Wolfgang Pauli was not only a Nobel laureate and one of the creators of modern physics, but also an eminent philosopher of modern science. This is the first book in English to include all his famous articles on physics and epistemology. They were actually translated during Pauli's lifetime by R. Schlapp and are now edited and annotated by Pauli's former assistant Ch. Enz. Pauli writes about the philosophical significance of complementarity, about space, time and causality, symmetry and the exclusion principle, but also about the role of the unconscious in modern science. His famous article on Kepler is included as well as many historical essays on Bohr, Ehrenfest, and Einstein as well as on the influence of the unconscious on scientific theories. The book addresses



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not only physicists, philosophers and historians of science, but also the general public.

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T.C. Memorandum Decisions

Index

Trademarks

The University of Melbourne : Decades of Challenge

Keeping the Lights on

Over 19,000 total pages

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Government published

manual: Numerous

illustrations and

matrices. Published in the

1990s and after 2000.

TITLES and CONTENTS:

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- Electrical Science, Vol 4
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- Thermodynamics, Heat Transfer, And Fluid Flow, Vol 2
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1 - Material Science, Vol

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Physics And Reactor

Theory, Vol 1 - Nuclear

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includes information on

the units used to measure

physical properties;

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vectors, and how they are used to show the net effect of various forces; Newton's Laws of motion, and how to use these laws in force and motion applications; and the concepts of energy, work, and power, and how to measure and calculate the energy involved in various applications. \* Scalar And Vector Quantities \* Vector Identification \* Vectors: Resultants And Components \* Graphic Method Of Vector Addition \* Component Addition Method \* Analytical Method Of Vector Addition \* Newton's

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Principles \* Force And

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Law Of Conservation Of

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Electrical Science

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and direct current (DC)

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and generators; AC power

and reactive components;

batteries; AC and DC

voltage regulators;

transformers; and

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electrical test  
instruments and measuring  
devices. \* Atom And Its  
Forces \* Electrical  
Terminology \* Units Of  
Electrical Measurement \*  
Methods Of Producing  
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Magnetism \* Magnetic  
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Basic DC Circuit  
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\* DC Circuit Faults \*  
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Battery Terminology \*

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THERMODYNAMICS, HEAT  
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Thermodynamics, Heat  
Transfer, and Fluid Flow  
Fundamentals Handbook  
includes information on



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thermodynamics and the properties of fluids; the three modes of heat transfer - conduction, convection, and radiation; and fluid flow, and the energy relationships in fluid systems. \*

Thermodynamic Properties \*

Temperature And Pressure

Measurements \* Energy,

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\* Radiant Heat Transfer \*

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Continuity Equation \*

Laminar And Turbulent Flow

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Pumps INSTRUMENTATION AND

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Handbook includes

information on

temperature, pressure,

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flow, and level detection  
systems; position  
indication systems;  
process control systems;  
and radiation detection  
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Temperature Detection  
Circuitry \* Pressure  
Detectors \* Pressure  
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Pressure Detection  
Circuitry \* Level  
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Compensation \* Level  
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Radiation Detection  
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Counter Circuitry \*  
Ionization Chamber \*  
Compensated Ion Chamber \*  
Electroscope Ionization  
Chamber \* Geiger-Müller  
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Counter \* Gamma  
Spectroscopy \*

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Miscellaneous Detectors \*  
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Control Systems \* Proporti  
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Control Systems \*  
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concepts and functional  
use of algebra, geometry,  
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calculus. Word problems,  
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and practical exercises  
that require the use of  
each of the mathematical  
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presented. \* Calculator  
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Determinants \* Calculus  
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Handbook includes  
information on the atomic  
structure of matter;  
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Engineering Fabrication,  
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The Material Science  
Handbook includes

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information on the structure and properties of metals, stress mechanisms in metals, failure modes, and the characteristics of metals that are commonly used in DOE nuclear facilities. \*

Bonding \* Common Lattice Types \* Grain Structure And Boundary \*

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