for these receptors, and the role of receptors and glucocorticoid
binding in respect to hyaline membrane disease.

Part II: Concerning physiological development, this chapter
is introduced by studies of the development of the mechanical
properties of the respiratory system, by Bryan, Mansell,
and Severson. It is pointed out that pulmonary function data for infants
between 1 and 6 years are almost nonexistent, which is unfortunate,
because this is a critical period in lung growth: lung volume
increases about thirteenfold from birth to age 6, but only threefold
from 6 to adulthood. Of particular interest are the data on
closing volumes in children.

Hudson, Allen and Woodrum discuss gas exchange in the
developing lung and focus on the clinical and physiologic aspects
of carbon dioxide and oxygen exchange. They point out that,
in spite of certain difficulties in a small percentage of infants,
it is remarkable that the lung of the newborn is so well pre-
pared without prior rehearsal to carry out the necessary O2 and
CO2 exchange within seconds of demand. Difficulties that arise
are, for the most part, related to a compromised gas-exchange
system. Although there is much yet to be known about hyaline
membrane disease, the major anomaly appears to be an anatomic
slunt due to perfusion of nonalveolarized vessels.

The physiology and pharmacology of the pulmonary circula-
tion in the fetus and newborn are discussed by Rudolph,
Heyman, and Lewis. Pulmonary blood flow adequate for gas
exchange is clearly as important as alveolar respiration and,
in this regard, the inclusion in this chapter of a review of methods
and their limitations in studying pulmonary circulation is particu-
larly rewarding. Much of this work has been carried out in fetal
labor.

Soluble and water transfer in fetal and newborn lungs, well
covered by Olver, has hitherto received scant attention. The
manner and speed by which pulmonary liquid present in the
potential alveoli at birth is removed is a significant puzzle
that has yet to be resolved.

Appropriately, the concluding chapter by Tookey deals with the
clinical conditions that can affect the lung at birth. They are:
delayed absorption of lung fluid, hyaline membrane disease, pul-
monary insufficiency, and apnea. The description of the char-
acteristics of these conditions should provide a useful start for
the uninitiated.

Overall, this book gives a balanced appraisal of current knowl-
dedge about the development of the lung. To the seasoned worker
in the field and to the beginner alike, it is essential reading,
particularly at the rather modest price of $25.00.

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Pain—New Perspectives in Measurement and Management.
EDITED BY A. W. HARCUS, R. SMITH, AND D. WHITTLE. New York,

This book is a compendium of presentations from a symposium
held in May 1977 in England, the ostensible purpose of which
was to provide a forum for the exchange of ideas by clinical,
research, and pharmacology specialists on the topic pain. It also
introduces a new narcotic, buprenorphine, as “a potent antagonist
analgesic.” The point is made that recent discoveries in analgesic
pharmacology provided a scientific basis for current hypotheses
about pain mechanisms and their inhibition, thus setting the
scene for the emphasis on buprenorphine. At least a quarter of

the book is devoted to discussing the pharmacologic aspects of
this drug in man, and then relates a few, mostly anecdotal, ex-
periences of its use, primarily in treating postoperative pain.
These studies, while limited in scope, appear to confirm that
buprenorphine produces little cardiovascular or respiratory
depression and has no psychotomimetic effect, but does produce
sedation and analgesia that lasts at least four to six hours. In
further studies mentioned elsewhere, the drug also appears to
have a low physical dependence liability and extremely mild
withdrawal symptoms.

On the subject of pain, the book deals mostly with acute pain
and makes mention of current approaches to the treatment of post-
operative pain, the pain of myocardial infarction, the pain of
acute trauma, and renal colic. There are two good chapters dealing
with the abuse and dependence problems incurred with narcotic
medications. Superficial coverage is given to the endogenous
opiates. The book does not elucidate the subject of chronic pain
at all. The one brief chapter devoted to this topic deals with the
different approaches in the management of patients with chronic
pain. Further insight into the problems of these patients can be
 gained from two chapters dealing with patients with pain due to
cancer, but the principles involved may not be obvious to the
unsophisticated reader.

The title of the book leads one to anticipate some new informa-
tion about the management of pain. This expectation is en-
hanced by comments in the Foreword. The two chapters that
deal with this, however, are disappointing in not offering any
new ideas except the suggestion that measurement of the endog-
igenous opiate substances may be useful. Lack of direction is usual
when vaguely related papers prepared for conference presenta-
tion are loosely integrated.

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BY J. R. COOPER, F. E. BLOOM, AND R. H. ROTH. New York,

Cooper, Bloom and Roth survey the current state of science in
neuropharmacology with depth and accuracy. The authors dis-
cuss how neuropharmacology arrived at its current status, and
detail that current status by transmitter systems as only those at the
forefront of research and teaching could do. Their book is ap-
propriate for the beginner as well as the expert—it will stimulate
thought in the clinician and research ideas for the scientific
adventurer.

Each chapter discusses the historical development of a particular
field, and brings the reader quickly to the present state of knowl-
dge, stressing current areas of research and their limitations. The
new edition adds chapters on receptors and polypeptide trans-
mitters and updates other rapidly changing fields of neuro-
pharmacology. The weakest points of this book are its skimpy
referencing and indexing, but it is still the best neuropharma-
cology book available at any price, and best reading for both
clinician and scientist.

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