There are several books on the subjects of rodent pathology, toxicologic pathology, and toxicology and several veterinary and toxicologic pathology journals but nothing like this fourth edition of Peter Greaves’s treatise. It reads like a Greaves Tox Path Wiki or perhaps a Greavipedia on preclinical histopathology and toxicology. His progressive editions since 1991 have increased in thickness and weight, adding more information and thousands of references. A Kindle edition is available with links to references in the reference lists. His experience as a physician pathologist working on drug research and development, animal toxicity, and carcinogenicity studies is clearly demonstrated in this comprehensive text. Most animal lesions are discussed in the context of human toxicity or possible human toxicity. The book is organized by organ systems, including integumentary, mammary gland, hematopoietic and lymphatic, musculoskeletal, respiratory tract, cardiovascular, digestive (the longest at 106 pages), liver and pancreas, urinary tract, male genital tract, female genital tract, endocrine glands and nervous system, and special sense organs. Each chapter is loosely organized into the system’s anatomical components, normal morphology and physiology, nonneoplastic lesions, and neoplasia. In each chapter, there may be sections on drug-induced lesions in humans and animals, specific important lesions, controversial issues, and safety assessment.

The discussion of comparative aspects of drug toxicity in humans and animals, lesions, and interpretation is extremely helpful for the pathologist. Not only are specific lesions discussed, but so are their importance in toxicity studies. In the liver chapter, these topics include enzyme inducers, liver weight changes, peroxisomal proliferation, drug-induced inflammation, and safety assessment of specific lesions. Many of these topics are well covered, and I usually agreed with Dr. Greaves’s interpretations. Each chapter has numerous references (hundreds per chapter), which are all referenced in the text. The liver chapter has 693 references, while the digestive system chapter has 694 references.

The book lacks a few features that would be of great benefit, but then it would be much larger in size. The book lacks consideration of some chemicals that are not drugs but includes the important organ-specific chemicals. The book has few histopathology figures, but they are mostly very good and in color, except for electron micrographs. The figures tend to be of the classic lesions discussed. If you have the third edition, you might not want to buy this fourth edition. There are pages added, but this is not an extensive revised edition. If you do not have the third edition, this fourth edition can be extremely helpful if you are a veterinary or medical pathologist working with research and development and safety assessment of chemicals, particularly drugs. I highly recommend it for that audience and for toxicologists, other scientists, and regulators working with drug and other chemical safety. It is a must-have reference book in this field.