Preface to the Second Edition

A few years after the publication of the first edition of this book, I submitted a paper on congruence lattices of finite lattices to a journal. The referee expressed surprise that I have more to say on this topic, after all, I published a whole book on the subject.

This Second Edition, will attest to the fact the we, indeed, have a lot more to say on this subject. In fact, we have hardly started.

The new topics include

- The minimal representation theorem for rectangular lattices, a combinatorial result, see Chapter 11; this is joint work with E. Knapp.

- A new field investigating the ordered set Princ $K$ of principal congruences of a lattice $K$, see Part VI. I started this field; it was continued by G. Czédli and myself.

- Congruences and prime intervals, a field concerned with the congruence structure of finite lattices, especially of SPS lattices, see Part VII. For SPS lattices this field was started by G. Czédli; the results are due to him and myself.

Part I has been extended to also provide an introduction to the new topics.


We use now the notation as in LTF, in particular, the functional notation for maps and bold Greek letters for congruences. This introduced $\aleph_0$ incorrect formulas and diagrams. I think I have been able to catch 99% of the errors. However, if you find a map $\varphi\psi$ difficult to figure out, just change it to $\psi\varphi$.

I would like to thank all those who sent me corrections, especially, G. Czédli, K. Kaarli, H. Lakser, R. Padmanabhan, and F. Wehrung.
Note All the unpublished papers in the references can be found in the ResearchGate Website, researchgate.net; since Gratzer will not find my publications, use the link
https://www.researchgate.net/profile/George_Graetzer

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