SEMINAR ON CONTINUITY IN SEMILATTICES (SCS)

NAME: Hofmann K.H.	Date	M	D	Y
		09	20	83

TOPIC: ERRATA for " A Compendium of Continuous Lattices"

REFERENCES: Gierz, G., et al. , A Compendium of Continuous Lattices, Springer-Verlag Berlin, Heidelberg, New York, Tokyo 1980

In the forthcoming volume of Proceedings (Continuous Lattices and their Applications, R.-E. Hoffmann and K.H. Hofmann, Editors, Lecture Notes in Pure and Applied Mathematics, Marcel Dekker 1984) we want to print a list of errata and corrigenda of the Compendium. This intention was announced on various occasions; there is also an SCS-memo to this effect. Many have responded generously in sharing with us their notes on misprints and errors. The result up to this date is on the attached sheets. We still have a chance to complement this list if you act at once (preferably yesterday) and check the list against your own. If you have any complements please send them to me (FB Math THD, Schlossgartenstr.7, D-6100 Darmstadt, Germany FRG) and they will definitely be included for the benefit of the users of the book. In the meantime, you may stick the attached list into your copy of the book to have it where it belongs.

I also attach below the address list of the SCS we are currently using.

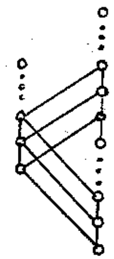
BANASCHEWSKI, Bernhard, and NELSON, Evelyn,	Department of Mathematics, McMaster Uniersity, Hamilton, Ontario, L8S 4K1 , Canada.
BANDELT, Hans-J.,	FB Mathematik, Universität, Ammerländer Heerstr.67-99, D-2900 Oldenburg , Germany, OOFRG,
CARRUTH, J.Harvey,	Department of Mathematics, University of Tennessee, Knoxville, Tenn.37916, USA,
ERNÉ, Marcel, DOBBERTIN, Hans, GATZKE, Hartmut, et al.	Institut f.Mathematik, Universität, Welfengarten 1, D-3000 Hannover, Germany, OOFRG,
GIERZ, Gerhard, and STRALKA, Albert,	Department of Mathematics, University of California, Riverside, Ca. 92502, USA,
HOFFMANN, Rudolf-E.,	FB Mathematik, Universität, Postfach 33 04 40, D-2800 Bremen, Germany, OOFRG,
HOFMANN, K.H.	FB Mathematik, THD, Schlossgartenstr.7, D-6100 Darmstadt, Germany FRG
JOHNSTONE, P.	St.John's College, Cambridge, England
KEIMEL, K.	see Hofmann
LAWSON, J.D.	Department of Mathematics, LSU, Baton Rouge, La.70803, USA,
MISLOVE, M.,	Department of Mathematics, Tulane University, New Orleans, La.70118, USA,
PRIESTLEY, Hilary,	Mathematical Institute, 24/29 St. Giles, Oxford, OX1 3LB, England,
SCOTT, Dana S.	Department of Computer Science, Carnegie-Mellon University, Pittsburgh, Pa.15213,
WYLER, Oswald,	Department of Mathematics, Carnegie-Mellon University, Pittsburgh, Pa.15213.

abgesandt am 21.9.83

ERRATA
for
A Compendium of Continuous Lattices

REFERENCE: Gierz,G., K.H.Hofmann, K.Keimel, J.D.Lawson, M.Mislove, D.S.Scott, A Compendium of Continuous Lattices, Springer-Verlag Berlin, Heidelberg, New York, 1980; xx + 371 pp.

page	line	section	replace	by (respectively,commentary)
XV	18		affine	concave
5	21		The equivalence	Both conditions imply the monotonicity of f. Then the equivalence
21		3.8(ii)	protection	projection
28	−2	3.30(2')	↑g(t)	↑d(t)
33		4.10(b)	finite	arbitrary
34		4.13(ii)	(ii) all	(ii) The following conditions are equivalent: (1) L is meet continuous. (2) L'is meet continuous.
33		4.13 HINT	HINT (ii) all	(ii) (2)⇒ (1): See 4.10(b). (1)⇒ (2): See 3.23.(Cf.also II-2.1 and II-4.22 below.)
49	8	1.21.1	The...equivalent	,among the following statements, (1)-(4) are equivalent; and if ≪ is multiplicative (i.e. a ≪ x and a ≪ y imply a ≪ xy, cfp.76,3.25 ff.) then they are all equivalent.
50	4		Delete entire line 4.	
50	9		Add new paragraph:	If ≪ is multiplicative, then (5) does not imply (3): Let X = [0,1], replace ℝ* by [0,1] and take f(x) = x/2, g(x)=x. We leave it as an exercise to verify that (5)⇒ (3) if ≪ is multiplicative.
52		1.28(i)	(i) all	(i) The following example is a continuous poset (and in fact an algebraic poset, cf.428,p.94) with a closed interval I which is not continuous:



page	line	section	replace	by
56	bottom of page		add paragraph	Example 1.28(i) is due to Marcel Erné.
73	3		I ε PRIME	*I* ε PRIME
75		3.24(3)	(3) all	(3) p= 1, or the filter generated by L\↓p does not meet ↓p.
75	bottom of page		add paragraph	It is understood that in (2) we con-consider only n with n> 1.
76	6		distributive	distributive and that p < 1
79		3.35.Remark.	In the diagram remove the points $(\frac{1}{2}, 1)$ and $(1, \frac{1}{2})$.	
100		1.5(4)	(4) all	(4) If $L = 2^X$, the power-set space, then σ(L) is the set of *families* which contain a set iff they contain some finite subset. These are the complements of the so-called *families of finite character*.
108	−16		min U_1.	min U_1; indeed if $x \in U_1$, then $v \leq x, u_1$ for some $v \in U_1$, since U_1 is filtered and $u_1 \in V \subseteq U_1$.Since $U_2 \cup \ldots \cup U_n$ is an upper set, we have $v \notin U_2 \cup \ldots \cup U_n$, whence $v \in V$. Thus $u_1 \leq v \leq x$. Thus $u_1 \leq x$ for all $x \in U_1$,i.e., $u_1 = \min U_1$.
124	−6	3.8	ΩΣX	ΩΣL
127	9		[1979]	[1979b]
128	−8		*F*([X→Z])	*F*([X,Z])
129	8		Delete:	Hence Y is not T_1.
129	−13		$(\Sigma 2)^M \to 2$	$(\Sigma 2)^M \to \Sigma 2$
133	20,21,23		[S,ΣO(ΣL))]	[ΣS,ΣO(Σ(L))]
133	22		ψ(W)(S)	ψ(W)(s)
133	28		σ(L) × L	Σσ(L) × ΣL
137	−2,−1 −		last sentence	Consider the following statements:
138	11		Insert paragraph	Statements (1)(3) and (4) are equivalent and imply (2); they are all equivalent if ≪ is multiplicative.

(3)

page	line	section	replace	by
145	-2		inf	inf
148	-6		$A \subseteq B$	$B \subseteq A$
153	-2		$\to \Lambda L$	$\to \Lambda L \times \Lambda L$
160	-1		contradiction.	contradiction. □
161	1		Delete □	
161	3		distributive lattice	lattice
164	20		$\underline{\lim}\ \mathcal{F}$	$(\underline{\lim}\ \mathcal{F})$
169	7		that is	it follows that it preserves
175	14	4.19	$b \in L$	$b \in I$
179	6	—	semilatices	semilattices
185	-13		K(S	K(S)
210	5		g_{jj}	g_{jk}
211	4		asume	assume
217	-7		$B(g,h)^\wedge = B(\hat{g},\hat{h})$	$B(g,h)^\wedge(\phi) = \hat{h}\phi g$
218	-12,-7		$\hat{g}$	g
218	-8		$[BL_A \to BL_A]$	$[[L\to A] \to [L\to A]]$
220	-9		$\pi(f)$	$\pi(\phi)$
221	14		Since ... is Scott continuous	The example of $L = \mathbb{N} \cup \{\infty\}$ and $\phi_n: L\to L$, $\phi_n(x) = x \wedge n$ with $I = L$ shows that π is not Scott continuous: Indeed $\sup \pi(\phi_n)(I) = \sup \downarrow n = \mathbb{N} \neq L = \pi(1_L)(L) = \pi(\sup \phi_n)(I)$.
221		3.23	All of 3.23	3.23. EXAMPLE. The ideal functor Id: $INF^\uparrow \to INF^\uparrow$ does not preserve projective limits, but does preserve injectivity and surjectivity of morphisms.
226	6		mor-phisms	morphisms
230	-3		Delete entire line	
230	-2		(d)	(c)
230	-1		Delete:(c)	
232		4.14	4.14,Parts (i),(ii)	4.41. REMARK. (i) Using our standard notation, we find a functorial construction $(L,p) \to (Id^\sim L,p)$ of ideal algebras (L,p) with $p: Id^\sim L \to L$ in $INF^\uparrow$. There is a natural quotient $(Id^\sim L,p) \to (L,p)$ of ideal algebras. (ii) On the proper subcategory CL of continuous lattices, there is a functorial construction which associates with any continuous lattice L an arithmetic lattice $Id^\sim L$ such that L is a CL-quotient of $Id^\sim L$

(4)

page	line	section	replace	by
255		diagrams	all O	0
256		diagrams	all O	0
258	5		developement	development
259	-19		$\omega(\mathrm{Spec}\ L) = \omega(L)$	$w(\mathrm{Spec}\ L) = w(L)$
265	10		=	$\simeq$
265	14		=	$\simeq$
313	-16		U_w such	U_w containing w such
371	column 2		under V enter	Vietoris *284*, VI - 3.8