Compact groups: EAR

First note that every $U(n)$ can be embedded in a $PSU(n')$, $n' \geqq 4$. These are simple groups, hence a retract of a direct product of copies of these groups will be the direct product of a subfamily thereof. Now since $PSU(i) \subseteqq PSU(i+1)$, we see that every compact group G can be embedded, on the one hand, in a direct product of groups $PSU(i)$ where i takes on even values, and on the other hand, in a direct product where i takes on odd values. Hence if G is a retract of both of these products, it must itself be a direct product of both sorts; contradiction.

3. Bibliography

The following list of papers is intended to be (though it is certainly not) complete concerning items which might be useful in deciding whether a given category (of structures) enjoys one of the properties discussed in the preceding text and table. E.g., it contains papers determining rings over which injectivity of modules is equivalent with some weaker property. Furthermore, if not all objects of a category have a given property, it might be interesting to know which of them do; papers going in this line are also included here, e.g. investigations of semigroup amalgams which can be completed or embedded. In order to facilitate the work of a reader who wants to find information on a given topic, we also include classification codes of the enlisted papers. These codes are the following:

AP	Amalgamation Property	EIH	Existence of Injective Hulls
CEP	Congruence Extension Property	ES	Epimorphisms are Surjective
EAR	Enough Absolute Retracts	IPA	Intersection Property of Amalgamations
ECS	Existence of Cogenerating Sets	RS	Residual Smallness
EI	Enough Injectives	SAP	Strong Amalgamation Property

On the other hand, we restricted ourselves to consider only the validity of these properties and not to go further. E.g., the reader will find here neither the papers dealing with the structure of amalgamated free products of groups nor those investigating injective modules in order to solve ring theoretical problems, nor a comprehensive literature on equational compactness though, as we have seen in the expository part, the latter is in connection with injectivity.

ABRAMOVIČ, JU. A.
71 Injective hulls of normed lattices, *Dokl. Akad. Nauk SSSR* **197** (1971), 743—745 (in Russian). *MR* **44**#7257 — EIH

AGAPITOV, K. V.
81 Epimorphisms of generalized uniserial rings and bicentralizers of torsion modules over bounded hereditary noetherian prime rings, *Abelian Groups and Modules*, ed. by L. A. Skornyakov, Tomsk University, Tomsk, 1981, 3—19 (in Russian). — ES

AHSAN, J. and DEEBA, E. Y.
81 Injective BCK-algebras, *Math. Japon.* **26** (1981), 547—551. *MR* **82m**: 06011 — EI

ALLOUCH, D.-A.
74 Monoïdes de fractions et enveloppe injective d'un monoïde, *C. R. Acad. Sci. Paris Sér. A* **279** (1974), 833—836. *MR* **51**#589 — EIH

AMIR, D. and ARBEL, B.
73 On injections and surjections of continuous function spaces, *Israel J. Math.* **15** (1973), 301—310. *MR* **53**#1239 — ES

ANDERSON, F. W.
78 Simple injective modules, *Math. Scand.* **43** (1978), 204—210. *MR* **80g**: 16027 — EI

ANDERSON, M. and CONRAD, P.
81 Epicomplete l-groups, *Algebra Universalis* **12** (1981), 224—241. *MR* **82d**: 06017 — ES

ANDRÉKA, H., COMER, S. D. and NÉMETI, I.
a Epimorphisms of finite dimensional cylindric algebras need not be surjective (manuscript). — ES

ANDRÉKA, H., GERGELY, T. and NÉMETI, I.
77 On universal algebraic constructions of logics, *Studia Logica* **36** (1977), 9—47. *MR* **58**#21588 — AP SAP ES RS

ANDRÉKA, H. and SAIN, I.
81 Connections between algebraic logic and initial algebra semantics of CF languages, *Mathematical Logic in Computer Science* (Proc. Conf. Salgótarján, 1978), Colloq. Math. Soc. J. Bolyai, Vol. 26, North-Holland, Amsterdam, 1981, 25—83. — ES

ARAGANE, K. and FUJIWARA, T.
79 On a problem of Lausch and Nöbauer, *Math. Japon.* **24** (1979/80), 121—122. *MR* **80g:** 08003 — AP IPA

ARDUINI, P.
69 Monomorphisms and epimorphisms in abstract categories, *Rend. Sem. Mat. Univ. Padova* **42** (1969), 135—166. *MR* **43**#6279 — ES

BACSICH, P. D.
72a Compact injectives and non-standard analysis, *Conference in Mathematical Logic* — London '70 (Proc. Conf., Bedford Coll., London, 1970), Lecture Notes in Math., Vol. 255, Springer, Berlin, 1972, 10—28. *MR* **49**#2875 — EI
72b Injective hulls as completions, *Glasgow Math. J.* **13** (1972), 17—23. *MR* **47**#3488 — EI EIH
72c Injectivity in model theory, *Colloq. Math.* **25** (1972), 165—176. *MR* **48**#3840 — AP CEP EI
73 An epi-reflector for universal theories, *Canad. Math. Bull.* **16** (1973), 167—171. *MR* **49**#370 — AP EIH
74 Model theory of epimorphisms, *Canad. Math. Bull.* **17** (1974), 471—477. *MR* **51**#10081 — ES
75a Amalgamation properties and interpolation theorems for equational theories, *Algebra Universalis* **5** (1975), 45—55. *MR* **52**#2873 — AP CEP TP
75b The strong amalgamation property, *Colloq. Math.* **33** (1975), 13—23. *MR* **53**#116 — AP SAP IPA

BACSICH, P. D. and ROWLANDS HUGHES, D.
74 Syntactic characterisation of amalgamation, convexity and related properties, *J. Symbolic Logic* **39** (1974), 433—451. *MR* **52**#71 — AP SAP CEP

BAER, R.
40 Abelian groups that are direct summands of every containing abelian group, *Bull. Amer. Math. Soc.* **46** (1940), 800—806. *MR* **2**—126 — EIH
46 Absolute retracts in group theory, *Bull. Amer. Math. Soc.* **52** (1946), 501—506. *MR* **8**—14 — EAR

BALBES, R.
67 Projective and injective distributive lattices, *Pacific J. Math.* **21** (1967), 405—420. *MR* **35**#2802 — EI

BALBES, R. and DWINGER, PH.
71 Coproducts of Boolean algebras and chains with applications to Post algebras, *Colloq. Math.* **24** (1971/72), 15—25. *MR* **46**#3388 — EI

BALBES, R. and GRÄTZER, G.
71 Injective and projective Stone algebras, *Duke Math. J.* **38** (1971), 339—347. *MR* **43**#7378 — EI

BALBES, R. and HORN, A.
70 Injective and projective Heyting algebras, *Trans. Amer. Math. Soc.* **148** (1970), 549—559. *MR* **41**#1607 — EI

BALDWIN, J. T.
73 A sufficient condition for a variety to have the amalgamation property, *Colloq. Math.* **28** (1973), 181—183. *MR* **48**#5957 — AP
80 The number of subdirectly irreducible algebras in a variety, II, *Algebra Universalis* **11** (1980), 1—6. *MR* **82c**: 08008 — RS

BALDWIN, J. T. and BERMAN, J. D.
75 The number of subdirectly irreducible algebras in a variety, *Algebra Universalis* **5** (1975), 379—389. *MR* **52**#13578 — RS

BALLARD, J. W.
78 Injective modules for restricted enveloping algebras, *Math. Z.* **163** (1978), 57—63. *MR* **80b**: 20053 — EI

BANASCHEWSKI, B.
70 Injectivity and essential extensions in equational classes of algebras, *Proc. Conf. Universal Algebra* (Queen's Univ., Kingston, Ont., October, 1969), Queen's Papers in Pure and Applied Math., Vol. 25, Queen's Univ., Kingston, Ontario, 1970, 131—147. *MR* **41** # 3354 — TP EI EIH
71 Projective covers in categories of topological spaces and topological algebras, *General Topology and its Relations to Modern Analysis and Algebra* (Proc. Conf., Kanpur, 1968), Academia, Praha, 1971, 63—91. *MR* **44** # 1616 — EI EIH
72 On profinite universal algebras, *General Topology and its Relations to Modern Analysis and Algebra, III* (Proc. Third Prague Topological Sympos., 1971), Academia, Praha, 1972, 51—62. *MR* **50** # 4448 — ES
73 Equational compactness in universal algebra, Lecture Notes, McMaster Univ., Hamilton, 1973. — RS EI EIH
77a Sheaves of Banach spaces, *Quaestiones Math.* **2** (1977/78), 1—22. *MR* **58** # 11073 — EIH
77b Essential extensions of T_0-spaces, *General Topology and Appl.* **7** (1977), 233—246. *MR* **56** # 16557 — EI EIH
79 Injective Banach sheaves, *Applications of Sheaves (Proc. Res. Sympos. Appl. Sheaf Theory to Logic, Algebra and Anal., Univ. Durham,* Durham, 1977), Lecture Notes in Math., Vol. 753, Springer, Berlin—Heidelberg—New York, 1979, 101—112. *MR* **81j**: 46109 — EI EIH
80a Extension of invariant linear functionals: Hahn—Banach in the topos of M-sets, *J. Pure Appl. Algebra* **17** (1980), 227—248. *MR* **82c**: 46081 — EI EIH
80b Injective sheaves of abelian groups: a counterexample, *Canad. J. Math.* **32** (1980), 1518—1521. *MR* **82f**: 18015a — EI
81 When are divisible groups injective?, *Quaestiones Math.* **4** (1981), 285—307. — EI
a Essential extensions and injectivity for metric spaces and Banach spaces (unpublished note). — EIH

BANASCHEWSKI, B. and BRUNS, G.
67 Categorial characterization of the MacNeille completion, *Arch. Math. (Basel)* **18** (1967), 369—377. *MR* **36** # 5036 — EI EIH ES
68 Injective hulls in the category of distributive lattices, *J. Reine Angew. Math.* **232** (1968), 102—109. *MR* **38** # 5888 — EIH

BANASCHEWSKI, B. and NELSON, E.
72 Equational compactness in equational classes of algebras, *Algebra Universalis* **2** (1972), 152—165. *MR* **46** # 7125 — EI RS
77 On the non-existence of injective near-ring modules, *Canad. Math. Bull.* **20** (1977), 17—23. *MR* **57** # 12612 — EI RS

BARANOVIČ, T. M. and BURGIN, M. S.
75 Linear Ω-algebras, *Uspehi Mat. Nauk* **30** (1975), no. 4 (184), 61—106 (in Russian). *MR* **54** # 5088 — AP

BARON, S.
68 Note on epi in $\mathscr{T}_0$, *Canad. Math. Bull.* **11** (1968), 503—504. *MR* **38** # 3315 — ES

BARR, M.
73 Non-abelian torsion theories, *Canad. J. Math.* **25** (1973), 1224—1237. *MR* **50** # 13188 — EI
75 The existence of injective effacements, *Canad. Math. Bull.* **18** (1975), 1—6. *MR* **54** # 5311 — ECS EIH

BEACHY, J. A.
72 A generalization of injectivity, *Pacific J. Math.* **41** (1972), 313—327. *MR* **47** # 1872 — EI

BEAZER, R.
75a Post-like algebras and injective Stone algebras, *Algebra Universalis* **5** (1975), 16—23. *MR* **52** # 2988 — EI
75b A note on injective double Stone algebras, *Algebra Universalis* **5** (1975), 239—241. *MR* **52** # 10527 — EI

78 Some remarks on distributive double p-algebras, *Algebra Universalis* **8** (1978), 9—14. *MR* **56**#8456 CEP

80a Subdirectly irreducible double Heyting algebras, *Algebra Universalis* **10** (1980), 220—224. *MR* **81d**: 06015 RS

80b Subdirectly irreducibles for various pseudocomplemented algebras, *Algebra Universalis* **10** (1980), 225—231. *MR* **81g**: 06005 RS

BELESOV, A. U.

76 Injective and equationally compact modules, *Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* **1976**, no. 1, 85—86 (in Russian). *MR* **56**#15410 EI

BELJAEV, V. JA.

82 On algebraic closure and amalgamation of semigroups, *Semigroup Forum* **25** (1982), 223—267. AP

BERAN, L.

73 On a construction of amalgamation, I, *Acta Univ. Carolinae — Math. Phys.* **14** (1973), no. 2, 31—39. *MR* **50**#9717 AP

BERGMAN, C. H.

81 Concerning the amalgamation bases of congruence distributive equational classes, Ph. D. Thesis, Univ. California, Berkeley, Calif., 1981. AP CEP RS

BERGMAN, G. M.

74 Modules over coproducts of rings, *Trans. Amer. Math. Soc.* **200** (1974), 1—32. *MR* **50**#9970. SAP

78 The diamond lemma for ring theory, *Adv. in Math.* **29** (1978), 178—218. *MR* **81b**: 16001 AP SAP

a Epimorphisms of Lie-algebras (unpublished note). ES IPA

b Notes on epimorphisms of rings (unpublished note). ES

c A free epic subalgebra of a free associative algebra (unpublished note). ES

d Compact groups do not have the amalgamation property (manuscript). AP

BERGMAN, G. M. and DICKS, W.

75 On universal derivations, *J. Algebra* **36** (1975), 193—211. *MR* **52**#8196 ES

BERMAN, J.

77 Distributive lattices with an additional unary operation, *Aequationes Math.* **16** (1977), 165—171. *MR* **58**#418 CEP RS

81 Interval lattices and the amalgamation property, *Algebra Universalis* **12** (1981), 360—375. *MR* **82k**: 06007 AP

BERTHIAUME, P.

67 The injective envelope of S-sets, *Canad. Math. Bull.* **10** (1967), 261—273. *MR* **35**#4321 EIH

BIRÓ, B., KISS, E. W. and PÁLFY, P. P.

82 On the congruence extension property, *Universal Algebra* (Proc. Conf. Esztergom, 1977), Colloq. Math. Soc. J. Bolyai, Vol. 29, North-Holland, Amsterdam, 1982, 129—151. CEP EI

BLACKADAR, B. E.

78 Weak expectations and injectivity in operator algebras, *Proc. Amer. Math. Soc.* **68** (1978), 49—53. EI

BÖRGER, R., THOLEN, W., WISCHNEWSKY, M. B. and WOLFF, H.

81 Compact and hypercomplete categories, *J. Pure Appl. Algebra* **21** (1981), 129—144. ECS

BOTNARU, D. V.

80 Injective objects with respect to varieties, *Algebraic structures, Mat. Issled.*, No. 56, 28—32 (in Russian). *MR* **82b**: 18006 EI

82 On the connection between adjoint pairs of subcategories and bicategory structures, *Izv. Vyšš. Učebn. Zaved. Matematika* **1982**, no. 4, 9—12 (in Russian). EI

BOURBAKI, N.

70 *Éléments de mathématique. Algèbre*, Chapitres 1—3, Hermann, Paris, 1970. *MR* **43**#2 SAP

BRAY, E. E., BYRD, K. A. and BERNHARDT, R. L.

71 The injective envelope of the upper triangular matrix ring, *Amer. Math. Monthly* **78** (1971), 883—886. *MR* **44**#5338 EIH

BRUCK, R. H.
58 *A survey of binary systems*, Ergebnisse der Mathematik und ihrer Grenzgebiete, Neue Folge, Heft 20, Springer-Verlag, Berlin—Göttingen—Heidelberg, 1958. *MR* **20**#76 SAP

BRUNS, G. and LAKSER, H.
70 Injective hulls of semilattices, *Canad. Math. Bull.* **13** (1970), 115—118. *MR* **43**#137 EI EIH

BUCHSBAUM, D. A.
55 Exact categories and duality, *Trans. Amer. Math. Soc.* **80** (1955), 1—34. *MR* **17**—579 EI

BULASZEWSKA, A. and KREMPA, J.
75 On epimorphisms in the category of all associative rings, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **23** (1975), 1153—1159. *MR* **53**#536 ES

BULMAN-FLEMING, S.
75 A note on injective semilattices, *Algebra Universalis* **5** (1975), 305—306. *MR* **52**#10517 EI

BULMAN-FLEMING, S. and MCDOWELL, K.
79 The category of mono-unary algebras, *Algebra Universalis* **9** (1979), 339—345. *MR* **80i**: 08005 EI EIH

BUNU, I. D.
74 Injectivity in modules, *Mat. Issled.* **9** (1974), no. 4 (34), 23—41 (in Russian). *MR* **52**#5738 EI EIH
76a On the concept of injectivity in a category of modules, *Rings and modules, Mat. Issled.* **38** (1976), 71—85 (in Russian). *MR* **55**#10524 EI EIH
76b (ϱ, σ)-injectivity in modules, *Rings and modules, Mat. Issled.* **38** (1976), 86—96 (in Russian). *MR* **55**#10523 EI EIH

BURGESS, W.
65 The meaning of mono and epi in some familiar categories, *Canad. Math. Bull.* **8** (1965), 759—769. *MR* **33**#161 ES
81 The injective hull of S-sets, S a semilattice of groups, *Semigroup Forum* **23** (1981), 241—246. EIH

BURGIN, M. S.
67 Imbedding an amalgam of groups with a certain property into a group with the same property, *Mat. Sb. (N. S.)* **74 (116)** (1967), 147—160 (in Russian). *MR* **36**#1547 AP SAP

BUŞNEAG, D.
80 Injective objects in the Hilbert algebras category, *Math. Sem. Notes Kobe Univ.* **8** (1980), 433—442. *MR* **82f**: 06017 EI

BYRD, K. A.
72a Rings whose quasi-injective modules are injective, *Proc. Amer. Math. Soc.* **33** (1972), 235—240. *MR* **46**#9112 EI
72b When are quasi-injectives injective? *Canad. Math. Bull.* **15** (1972), 599—600. *MR* **47**#277 EI

CALENKO, M. Š.
69 Representations of concrete categories in the category of sets, *Mat. Zametki* **6** (1969), 125—127 (in Russian). *MR* **40**#1444 ES

CALVO, B.
75 Dominions de foncteurs relatifs, I—II, *Comm. Algebra* **3** (1975), 95—127, 129—150. *MR* **51**#5709 ES

CARSON, A. B.
73 The model completion of the theory of commutative regular rings, *J. Algebra* **27** (1973), 136—146. *MR* **52**#7893 AP

CARTWRIGHT, D. I.
75 Extension of positive operators between Banach lattices, *Mem. Amer. Math. Soc.* **3** (1975), no. 164. *MR* **52**#3913 EI

CĂZĂNESCU, V. E.
78 Catégories d'algèbres universelles, I—II, *Mathematica (Cluj)* **20 (43)** (1978), 5—20 and 133—141. *MR* **80g**: 18006 and **80k**: 18008 ES

CHAN, W.-M., HIGGS, D. A. and LENIHAN, B.
74 Compactness as a type of injectivity, *General Topology and Appl.* **4** (1974), 103—107. *MR* **49**#9809 EI

CHEATHAM, T. J. and ENOCHS, E.
72 The epimorphic images of a Dedekind domain, *Proc. Amer. Math. Soc.* **35** (1972), 37—42. *MR* **46**#1784 ES

CHERLIN, G. L.
76a *Model theoretic algebra—selected topics,* Lecture Notes in Mathematics, Vol. 521, Springer-Verlag, Berlin—New York, 1976. *MR* **58**#7455 AP
76b Amalgamation bases for commutative rings without nilpotent elements, *Israel J. Math.* **25** (1976), 87—96. *MR* **56**#11779 AP

CHOE, T. H.
73 Injective compact distributive lattices, *Proc. Amer. Math. Soc.* **37** (1973), 241—245. *MR* **46**#8923 EI
77 Injective and projective zero-dimensional compact universal algebras, *Algebra Universalis* 7 (1977), 137—142. *MR* **55**#10354 EI

CHOI, M.-D. and EFFROS, E. G.
77a Injectivity and operator spaces, *J. Functional Analysis* **24** (1977), 156—209. *MR* **55**#3814 EI
77b Nuclear C^*-algebras and injectivity: the general case, *Indiana Univ. Math. J.* **26** (1977), 443—446. *MR* **55**#3799 EI

CIGNOLI, R.
75 Injective De Morgan and Kleene algebras, *Proc. Amer. Math. Soc.* **47** (1975), 269—278. *MR* **50**#9727 EI

CLARK, D. M. and KRAUSS, P. H.
77 Varieties generated by para primal algebras, *Algebra Universalis* **7** (1977), 93—114. *MR* **55**#2707 CEP

CLARKE, G. T.
80 On completely regular semigroup varieties and the amalgamation property, *Semigroups* (Proc. Conf., Monash Univ., Clayton, 1979), Academic Press, New York, 1980, 159—165. *MR* **82b**: 20083 AP SAP
81 Commutative semigroup varieties with the amalgamation property, *J. Austral. Math. Soc. Ser. A* **30** (1980/81), 278—283. *MR* **82f**: 20084 AP SAP
83 Semigroup varieties with the amalgamation property, *J. Algebra* **80** (1983), 60—72. AP SAP

CLIFFORD, A. H. and PRESTON, G. B.
67 *The algebraic theory of semigroups,* Vol. II, Mathematical Surveys, No. 7, American Mathematical Society, Providence, R. I., 1967. *MR* **36**#1558 SAP

COHEN, H. B.
64 Injective envelopes of Banach spaces, *Bull. Amer. Math. Soc.* **70** (1964), 723—726. *MR* **32**#1536 EIH

COHN, P. M.
59 On the free product of associative rings, *Math. Z.* **71** (1959), 380—398. *MR* **21**#5648 SAP
64 Free ideal rings, *J. Algebra* **1** (1964), 47—69. *MR* **28**#5095 SAP
71 The embedding of firs in skew fields, *Proc. London Math. Soc.* (3) **23** (1971), 193—213. *MR* **45**#6866 SAP

COMER, S. D.
67 Some representation theorems and the amalgamation property in algebraic logic, Ph. D. Thesis, Univ. Colorado. AP EI
68 Galois theory and the amalgamation property in finite dimensional cylindric algebras, *Notices Amer. Math. Soc.* **15** (1968), 103. AP EI
69 Classes without the amalgamation property, *Pacific J. Math.* **28** (1969), 309—318. *MR* **39**#3980 AP
a Galois theory for cylindric algebras and its applications (preprint). ES

CONRAD, P. F.
73 The hulls of representable l-groups and f-rings, *J. Austral. Math. Soc.* **16** (1973), 385—415. *MR* **49**#8913 EIH

CORNISH, W. H.
76 The variety of commutative Rickart rings has no non-trivial injectives, *Nanta Math.* **9** (1976), 84—85. *MR* **55** # 10440 — EI
77 Amalgamating commutative regular rings, *Comment. Math. Univ. Carolinae* **18** (1977), 423—436. *MR* **57** # 211 — CEP ES AP EIH EI RS

CORNISH, W. H. and FOWLER, P. R.
77 Coproducts of de Morgan algebras, *Bull. Austral. Math. Soc.* **16** (1977), 1—13. *MR* **55** # 7871 — CEP AP

CRAWLEY, J. W.
75 Some categorical results for semigroup categories, *Notices Amer. Math. Soc.* **22** (1975), A—723. — ES
78 Epimorphisms and H-coextensions, *Arch. Math. (Basel)* **30** (1978), 449—457. *MR* **80g**: 18009 — ES
80 Epimorphisms and semilattices of semigroups, *Semigroup Forum* **21** (1980), 95—112. *MR* **81k**: 20084 — ES

CROWN, G. D.
70 Projectives and injectives in the category of complete lattices with residuated mappings, *Math. Ann.* **187** (1970), 295—299. *MR* **42** # 5868 — EI

CUSICK, D.
73 Torsion submodule and injective hull, *Proc. West Virginia Acad. Sci.* **45** (1973), 347—351. *MR* **50** # 7254 — EIH

DAIGNEAULT, A.
64a Freedom in polyadic algebras and two theorems of Beth and Craig, *Michigan Math. J.* **11** (1964), 129—135. *MR* **29** # 3408 — SAP
64b On automorphisms of polyadic algebras, *Trans. Amer. Math. Soc.* **112** (1964), 84—130. *MR* **29** # 45 — AP
69 Injective envelopes, *Amer. Math. Monthly* **76** (1969), 766—774. *MR* **40** # 5690 — EIH

DAVEY, B. A.
76 Dualities for equational classes of Brouwerian algebras and Heyting algebras, *Trans. Amer. Math. Soc.* **221** (1976), 119—146. *MR* **54** # 192 — EI
77 Weak injectivity and congruence extension in congruence-distributive equational classes, *Canad. J. Math.* **29** (1977), 449—459. *MR* **56** # 217 — CEP EI
78 Subdirectly irreducible distributive double *p*-algebras, *Algebra Universalis* **8** (1978), 73—88. *MR* **56** # 8457 — RS

DAVEY, B. A. and WERNER, H.
79 Injectivity and Boolean powers, *Math. Z.* **166** (1979), 205—223. *MR* **80b**: 08004 — CEP EI

DAY, A.
70 Injectives in non-distributive equational classes of lattices are trivial, *Arch. Math. (Basel)* **21** (1970), 113—115. *MR* **43** # 122 — EI
71 A note on the congruence extension property, *Algebra Universalis* **1** (1971/72), 234—235. *MR* **45** # 3288 — CEP
72 Injectivity in equational classes of algebras, *Canad. J. Math.* **24** (1972), 209—220. *MR* **45** # 145 — EI CEP AP
73 The congruence extension property and subdirectly irreducible algebras — an example, *Algebra Universalis* **3** (1973), 229—237. *MR* **50** # 2027 — CEP
a Varieties of Heyting algebras, II (Amalgamation and injectivity) (unpublished note). — AP SAP CEP RS EI

DAY, B. J.
74 On adjoint functor factorization, *Category Seminar* (Proc. Sem. Sydney, 1972/73), Lecture Notes in Math., Vol. 420, Springer, Berlin—Heidelberg—New York, 1974, 1—19. *MR* **53** # 579 — ECS
78 On injective profinite algebras, *Bull. Austral. Math. Soc.* **19** (1978), 329—331. *MR* **80g**: 08012 — EI EIH
81 Injective uniform structures, *Algebra Universalis* **13** (1981), 167—170. — EI

DEMLOVÁ, M. and KOUBEK, V.
82 Completion of partial lattices, *Universal Algebra* (Proc. Conf. Esztergom, — AP SAP

1977), Colloq. Math. Soc. J. Bolyai, Vol. 29, North-Holland, Amsterdam, 1982, 173—193. ES

DIDIDZE, C. E.

57 Non-associative free sums of algebras with an amalgamated subalgebra, *Mat. Sb. N. S.* **43** (**85**) (1957), 379—396 (in Russian). *MR* **20**#3198 SAP

68 Free sums of Ω-algebras with amalgamated Ω-subalgebra, *Soobšč. Akad. Nauk Gruz. SSR* = Sakharth. SSR Mecn. Akad. Moambe **50** (1968), 531—534 (in Russian). *MR* **38**#196 SAP

DIKHTJAR, M. B.

77 Epimorphisms and monomorphisms in the category of partial *P*-operatives, *Ordered sets and lattices*, **4**, 24—27. Saratov Univ. Press (in Russian). ES

DOBBS, D. E.

77 On characterizing injective sheaves, *Canad J. Math.* **29** (1977), 1031—1039; Corrigendum, *ibid.* **32** (1980), 1522. *MR* **56**#5685 EI

DOROFEEVA, M. P.

73 Injective and flat polygons over hereditary monoids, *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **28** (1973), no. 1, 47—51 (in Russian). *MR* **48**#8670 EI

DÖRGE, K. and JUNG, H. A.

70 Abschließungen in Klassen strukturierter Mengen, *Math. Ann.* **187** (1970), 332—338. *MR* **42**#167 EIH

DRBOHLAV, K.

63 A note on epimorphisms in algebraic categories, *Comment. Math. Univ. Carolinae* **4** (1963), 81—85. *MR* **32**#2454 ES

DWINGER, PH.

64 Amalgamation of Boolean spaces, *Nieuw Arch. Wisk.* (3) **12** (1964), 25—31. *MR* **29**#4027 SAP

70 The amalgamation problem from a categorial point of view, *Proc. Conf. Universal Algebra* (Queen's Univ., Kingston, Ont., October, 1969), Queen's Papers in Pure and Applied Math., Vol. 25, Queen's Univ., Kingston, Ontario, 1970, 190—210. *MR* **41**#7268 AP SAP

DWINGER, PH. and YAQUB, F. M.

63 Generalized free products of Boolean algebras with an amalgamated subalgebra, *Nederl. Akad. Wetensch. Proc. Ser. A* **66**=*Indag. Math.* **25** (1963), 225—231. *MR* **26**#6094 SAP

DZIOBIAK, W.

81 On infinite subdirectly irreducible algebras in locally finite equational classes, *Algebra Universalis* **13** (1981), 393—394. *MR* **82m**: 08009 RS

EBRAHIMI, M. M.

82 Algebra in a Grothendieck topos: injectivity in quasi-equational classes, *J. Pure Appl. Algebra* **26**, 269—280. ECS EI EIH

ECKMANN, B. and SCHOPF, A.

53 Über injektive Moduln, *Arch. Math.* **4** (1953), 75—78. *MR* **15**—5 EIH

EILENBERG, S. and MOORE, J. C.

65 Foundations of relative homological algebra, *Mem. Amer. Math. Soc.* No. **55** (1965), 39 pp. *MR* **31**#2294 EI ES

EKLOF, P. C.

74 Algebraic closure operators and strong amalgamation bases, *Algebra Universalis* **4** (1974), 89—98. *MR* **52**#5521 AP SAP IPA

EKLOF, P. and SABBAGH, G.

70 Model-completions and modules, *Ann. Math. Logic.* **2** (1970/71), 251—295. *MR* **43**#3105 AP EI

ENJALBERT, P.

78 Epimorphismes: quelques résultats algébriques et logiques, *C. R. Acad. Sci. Paris Sér. A* **287** (1978), 175—177. ES

FAITH, C.

73 When are proper cyclics injective? *Pacific J. Math.* **45** (1973), 97—112. *MR* **47**#8610 EI

FAJTLOWICZ, S.
82 On polynomially distributive lattices, *Universal Algebra* (Proc. Conf. Esztergom, 1977), Colloq. Math. Soc. J. Bolyai, Vol. 29, North-Holland, Amsterdam, 1982, 267—269. AP

FAKIR, S.
71 On relative injective envelopes, *J. Pure Appl. Algebra* **1** (1971), 377—383. *MR* **46**#233 EIH
72 Catégories localement cohérentes et objets α-injectifs, *C. R. Acad. Sci. Paris Sér. A—B* **274** (1972), A1392—A1395. *MR* **45**#5188 EI
75 Objets algébriquement clos et injectifs dans les catégories localement présentables, *Bull. Soc. Math. France*, Mémoire no. 42, Supplément au 103, no. 2. EI

FAY, T. H.
75 A note on Hausdorff groups, *Bull. Austral. Math. Soc.* **13** (1975), 117—119. *MR* **52**#8316 ES

FELGNER, U.
a Die Amalgamierungseigenschaft der Ore-Bereiche (unpublished manuscript). AP

FELLER, E. H. and GANTOS, R. L.
69a Completely injective semigroups with central idempotents, *Glasgow Math. J.* **10** (1969), 16—20. *MR* **40**#256 EI
69b Completely injective semigroups, *Pacific J. Math.* **31** (1969), 359—366. *MR* **41**#1904 EI
69c Indecomposable and injective *S*-systems with zero, *Math. Nachr.* **41** (1969), 37—48. *MR* **40**#7374 EI

FERRAND, D.
68a Monomorphismes de schémas noethériens, *Séminaire d'algèbre commutative P. Samuel*, 1967/68, Les épimorphismes d'anneaux, Secrétariat math., Paris, 1968. ES
68b Épimorphismes d'anneaux à source noethérienne et monomorphismes de schémas, *C. R. Acad. Sci. Paris Sér. A—B* **266** (1968), A319—A321. *MR* **39**#197e ES

FINDLAY, G. D.
70 Flat epimorphic extensions of rings, *Math. Z.* **118** (1970), 281—288. *MR* **43**#6270 ES

FITZPATRICK, P. and WIEGOLD, J.
81 Embedding group amalgams, *Bull. Austral. Math. Soc.* **24** (1981), 373—379. SAP

FLACHSMEYER, J.
76 Envelopes in the category of Kakutani-*M*-spaces, *Categorical topology* (Proc. Conf., Mannheim, 1975), Lecture Notes in Math., Vol. 540, Springer, Berlin—Heidelberg—New York, 1976, 243—253. *MR* **55**#8743 EIH

FLEISCHER, I.
68 A new construction of the injective hull, *Canad. Math. Bull.* **11** (1968), 19—21. *MR* **37**#5254 EIH
75 On extending congruences from partial algebras, *Fund. Math.* **88** (1975), 11—16. *MR* **52**#3017 CEP
76 Amalgamation for semilattices, *Algebra Universalis* **6** (1976), 411—412. *MR* **55**#211 SAP
80 Relative pseudocomplemented semilattices amalgamate strongly, *Algebra Universalis* **11** (1980), 130—132. *MR* **81m**: 06008 SAP

FLEISCHER, V.
77 Projective and injective varieties of abelian Ω-algebras, *Contributions to Universal Algebra* (Proc. Conf. Szeged, 1975), Colloq. Math. Soc. J. Bolyai, Vol. 17, North-Holland, Amsterdam, 1977, 113—132. *MR* **57**#5863 EI

FOFANOVA, T. S.
72 Injectivity of polygons over Boolean algebras, *Sibirsk. Mat. Ž.* **13** (1972), 452—458 (in Russian). *MR* **45**#5043 EI EIH
78 Injective polygons over chains, *Math. Slovaca* **28** (1978), 21—32 (in Russian). *MR* **80h**: 06003 EI

FONTANA, M.
70 Epimorfismi e monomorfismi nella teoria delle categorie concrete, *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) **49** (1970), 5—10. *MR* **45**#3284 ES

FORREST, W. K.
77 Model theory for universal classes with the amalgamation property: a study in the foundations of model theory and algebra, *Ann. Math. Logic* **11** (1977), 263—366. *MR* **58**#202 AP

FOSSUM, R. M.
71 Injective modules over Krull orders, *Math. Scand.* **28** (1971), 233—246. *MR* **46**#7289 EI

FOUNTAIN, J. B.
74 Completely right injective semigroups, *Proc. London Math. Soc.* (3) **28** (1974), 28—44. *MR* **48**#8664 EI

FRAÏSSÉ, R.
54 Sur l'extension aux relations de quelques propriétés des ordres, *Ann. Sci. École Norm. Sup.* (3) **71** (1954), 363—388. *MR* **16**—1006 AP

FREESE, R.
79 The variety of modular lattices is not generated by its finite members, *Trans. Amer. Math. Soc.* **255** (1979), 277—300. *MR* **81g**: 06003 ES

FREESE, R. and MCKENZIE, R.
81 Residually small varieties with modular congruence lattices, *Trans. Amer. Math. Soc.* **264** (1981), 419—430. RS

FREYD, P.
64 *Abelian categories. An introduction to the theory of functors,* Harper's Series in Modern Mathematics, Harper and Row, Publishers, New York, 1964. *MR* **29**#3517 ES ECS EIH

FRIED, E.
74a Subdirect irreducible weakly associative lattices with congruence extension property, *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **17** (1974), 59—68. *MR* **52**#7980 CEP
74b Weakly associative lattices with congruence extension property, *Algebra Universalis* **4** (1974), 151—162. *MR* **51**#12634 CEP
78 A note on congruence extension property, *Acta Sci. Math. (Szeged)* **40** (1978), 261—263. *MR* **80a**: 08005 CEP

FRIED, E. and GRÄTZER, G.
73 A nonassociative extension of the class of distributive lattices, *Pacific J. Math.* **49** (1973), 59—78. *MR* **49**#4884 AP CEP RS EI EIH
76 Partial and free weakly associative lattices, *Houston J. Math.* **2** (1976), 501—512. *MR* **55**#2680 SAP

FRIED, E., GRÄTZER, G. and LAKSER, H.
71 Amalgamation and weak injectives in the equational class of modular lattices M_n, *Notices Amer. Math. Soc.* **18** (1971), A—624. AP EI

FRIED, E., GRÄTZER, G. and QUACKENBUSH, R. W.
80a The equational class generated by weakly associative lattices with the unique bound property, *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **22/23** (1979/80), 205—211. *MR* **82a**: 06008 AP CEP
80b Uniform congruence schemes, *Algebra Universalis* **10** (1980), 176—188. *MR* **81m**: 08013 CEP

FRIED, E. and KISS, E. W.
a Connection between congruence lattices and polynomial properties, *Algebra Universalis* (to appear). CEP

FRIED, E. and PIXLEY, A. F.
79 The dual discriminator function in universal algebra, *Acta Sci. Math. (Szeged)* **41** (1979), 83—100. *MR* **80g**: 08007 CEP

FUCHS, E.
75 Projective and injective complete lattices, *Arch. Math. (Brno)* **11** (1975), 217—239. *MR* **54**#5065 EI

GABRIEL, P. and ULMER, F.
71 *Lokal präsentierbare Kategorien*, Lecture Notes in Mathematics, Vol. 221, Springer, Berlin—Heidelberg—New York, 1971. *MR* **48**#6205 ECS EI
GAGEN, T. M. and WEICHSEL, P. M.
72 Dense subgroups of finite groups, *J. Austral. Math. Soc.* **13** (1972), 385—390. *MR* **47**#5107 ES
GARCÍA, O. C.
74 Injectivity in categories of groups and algebras, *An. Inst. Mat. Univ. Nac. Autónoma México* **14** (1974), 95—115. *MR* **57**#16421 EI
GARCÍA, O. C. and LARRIÓN, F.
82 Injectivity in varieties of groups, *Algebra Universalis* **14** (1982), 280—286. EI
GARDNER, B. J.
75 Epimorphisms of regular rings, *Comment. Math. Univ. Carolinae* **16** (1975), 151—160. *MR* **52**#5725 ES
79 A note on ring epimorphisms and polynomial identities, *Comment. Math. Univ. Carolinae* **20** (1979), 293—307. *MR* **80e**: 16013 ES
81 Absolute retracts, relatively injective simple objects and Brown—McCoy radicals, *Papers in Algebra, Analysis and Statistics* (Hobart, 1981), 277—283. Contemp. Math., 9, Amer. Math. Soc., Providence. EI
82 Injectives for ring monomorphisms with accessible images, *Comm. in Algebra* **10** (1982), 673—694. EI
GARLING, D.
71 Some remarks on injective envelopes, *Proc. Amer. Math. Soc.* **27** (1971), 503—505. *MR* **43**#2470 EIH
GEORGESCU, G.
70 On an injective immersion for Boolean algebras, *Stud. Cerc. Mat.* **22** (1970), 1335—1342 (in Romanian). *MR* **51**#10190 EI
71a Some remarks on the adjoint functors, *Rev. Roumaine Math. Pures Appl.* **16** (1971), 179—194. *MR* **46**#230 EI
71b Injective envelopes in the category of regular commutative monoids, *Stud. Cerc. Mat.* **23** (1971), 1049—1055 (in Romanian). *MR* **49**#7333 EIH
73 Injective and projective objects in various concrete categories, *Stud. Cerc. Mat.* **25** (1973), 505—532 (in Romanian). *MR* **51**#5712 EI EIH
GEORGESCU, G. and VRACIU, C.
69 Sur les épimorphismes centrés d'algèbres de Łukasiewicz, *C. R. Acad. Sci. Paris Sér. A—B* **269** (1969), A4—A6. *MR* **42**#7488 ES
GERHARD, J. A.
71 Subdirectly irreducible idempotent semigroups, *Pacific J. Math.* **39** (1971), 669—676. *MR* **47**#1980 RS
74 Injectives in equational classes of idempotent semigroups, *Semigroup Forum* **9** (1974/75), 36—53. *MR* **52**#535 EI EIH
GIERZ, G., HOFMANN, K. H., KEIMEL, K., LAWSON, J. D., MISLOVE, M. W. and SCOTT, D. S.
80 *A compendium of continuous lattices*, Springer-Verlag, Berlin—Heidelberg—New York, 1980. *MR* **82h**: 06005 EI
GILMOUR, C. R. A.
75 Special morphisms for zero-set spaces, *Bull. Austral. Math. Soc.* **13** (1975), 57—68. *MR* **51**#13978 ES IPA
GLEASON, A. M.
58 Projective topological spaces, *Illinois J. Math.* **2** (1958), 482—489. *MR* **22**#12509 EI
GLUSKIN, L. M.
56 Extension of homomorphisms of semigroups, *Učen. Zap. Harkov. Ped. Inst.* **18** (1956), no. 1, 33—39 (in Russian). CEP
79 Extensions of commutative semigroups, *Izv. Vyšš. Učebn. Zaved. Matematika* **1979**, no. 11, 3—12. Correction, *ibid.*, **1982**, no. 7, 88 (in Russian). *MR* **81i**: 20081 EI
GOLDBERG, M. S.
81 Distributive Ockham algebras: free algebras and injectivity, *Bull. Austral. Math. Soc.* **24** (1981), 161—203. EI AP CEP

GOLDMAN, O. and SAH, C. H.
69 Locally compact rings of special type, *J. Algebra* **11** (1969), 363—454. *MR* **38**#4530 EI EIH

GOLOVIN, O. N. and BRONŠTEĬN, M. A.
73 An axiomatic classification of exact operations, *Selected questions of algebra and logic* (A collection dedicated to the memory of A. I. Mal'cev), Izdat. Nauka, Novosibirsk, 1973, 40—96 (in Russian). *MR* **49**#5189 AP

GOLUBOV, E. A. and SAPIR, M. V.
82 Varieties of finitely approximable semigroups, *Izv. Vyss. Učebn. Zaved. Matematika*, **1982**, no. 11, 21—29 (in Russian). RS

GONSHOR, H.
68 Injective hulls of C^* algebras, *Trans. Amer. Math. Soc.* **131** (1968), 315—322. *MR* **37**#4631 EIH
70 Injective hulls of C^* algebras, II, *Proc. Amer. Math. Soc.* **24** (1970), 486—491. *MR* **44**#4525 EIH

GRÄTZER, G.
66 Equational classes of lattices, *Duke Math. J.* **33** (1966), 613—622. *MR* **33**#7278 RS
71 *Lattice theory. First concepts and distributive lattices,* W. H. Freeman and Co., San Francisco, Calif., 1971. *MR* **48**#184 CEP AP EI EIH RS
78 *General lattice theory,* Lehrbücher und Monographien aus dem Gebiete der Exakten Wissenschaften, Mathematische Reihe, Band 52, Birkhäuser-Verlag, Basel—Stuttgart, 1978. *MR* **80c**: 06001a AP SAP
79 *Universal algebra,* Second edition, Springer-Verlag, New York—Heidelberg, 1979. *MR* **80g**: 08001 CEP AP EI SAP EIH

GRÄTZER, G., JÓNSSON, B. and LAKSER, H.
73 The amalgamation property in equational classes of modular lattices, *Pacific J. Math.* **45** (1973), 507—524. *MR* **51**#3014 AP

GRÄTZER, G. and LAKSER, H.
71 The structure of pseudocomplemented distributive lattices, II. Congruence extension and amalgamation, *Trans. Amer. Math. Soc.* **156** (1971), 343—358. *MR* **43**#124 CEP AP
72a The structure of pseudocomplemented distributive lattices, III. Injective and absolute subretracts, *Trans. Amer. Math. Soc.* **196** (1972), 475—487. *MR* **46**#8926 EI
72b Two observations on the congruence extension property, *Proc. Amer. Math. Soc.* **35** (1972), 63—64. *MR* **45**#6729 CEP

GRAVEN, A. W. M.
79 Injective and projective Banach modules, *Nederl. Akad. Wetensch. Indag. Math.* **41** (1979), 253—272. *MR* **81e**: 46063 EI

GRÉGOIRE, J. P. and SCHREIDEN, A.
71 Algèbre — généralisation de la notion de produit amalgamé et application à des catégories concrètes, *Bull. Soc. Roy. Sci. Liège* **40** (1971), 543—554. *MR* **46**#9135 IPA

GRILLET, P.-A. and PETRICH, M.
70 Free products of semigroups amalgamating an ideal, *J. London Math. Soc.* (2) **2** (1970), 389—392. *MR* **43**#2132 SAP

GROTHENDIECK, A.
57 Sur quelques points d'algèbre homologique, *Tôhoku Math. J.* (2) **9** (1957), 119—221. *MR* **21**#1328 EIH ECS

GRUSON, L.
66 Catégories d'espaces de Banach ultramétriques, *Bull. Soc. Math. France* **94** (1966), 287—299. *MR* **36**#1957 EI EIH

GRUSON, L. and VAN DER PUT, M.
74 Banach spaces, *Bull. Soc. Math. France Mémoire No.* 39—40, Soc. Math. France, Paris, 1974, 55—100. *MR* **51**#1426 EI EIH

GRUŠKO, P. JA.
80 Injective, projective, and group objects in the category of geometric structures, *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1980**, no. 4, 7—10 (in Russian). *MR* **82a**: 53036 EI

HACQUE, M.
70 Sur l'existence de l'épimorphisme injectif plat à gauche maximum, *C. R. Acad. Sci. Paris Sér. A—B* **271** (1970), A1218—A1221. *MR* **43**#289 ES

HAJEK, D. W. and MYSIOR, A.
79 On non-simplicity of topological categories, *Categorical Topology* (Proc. Internat. Conf., Free Univ. Berlin, Berlin, 1978), Lecture Notes in Math., Vol. 719, Springer, Berlin—Heidelberg—New York, 1979, 84—93. *MR* **81j**: 18009 ECS

HAJEK, D. W. and WILSON, R. G.
73 The non-simplicity of certain categories of topological spaces, *Math. Z.* **131** (1973), 357—359. *MR* **47**#9535 ECS

HAINES, D. C.
73 Injective objects in the category of p-rings, *Proc. Amer. Math. Soc.* **42** (1973), 57—60. *MR* **48**#3837 EI

HALL, T. E.
75 Free products with amalgamation of inverse semigroups, *J. Algebra* **34** (1975), 375—385. *MR* **52**#3401 AP SAP
78a Representation extension and amalgamation for semigroups, *Quart. J. Math. Oxford Ser.* (2) **29** (1978), 309—334. *MR* **80a**: 20084 AP SAP
78b Amalgamation and inverse and regular semigroups, *Trans. Amer. Math. Soc.* **246** (1978), 395—406. *MR* **80d**: 20053 AP SAP
78c Inverse semigroup varieties with the amalgamation property, *Semigroup Forum* **16** (1978), 37—51. *MR* **58**#11174 AP SAP CEP
79 Inverse and regular semigroups and amalgamation: A brief survey, *Proceedings of a Symposium on Regular Semigroups* (Northern Illinois Univ., De Kalb, Ill., 1979), Northern Illinois Univ., De Kalb, Ill., 1979, 49—79. *MR* **82j**: 20120 AP SAP IPA

HALL, T. E. and JONES, P. R.
83 Epis are onto for finite regular semigroups, *Proc. Edinburgh Math. Soc.* **26** (1983), 151—162. ES

HALMOS, P.
61 Injective and projective Boolean algebras, *Lattice Theory* (Proc. Sympos. Pure Math., Vol. II), American Mathematical Society, Providence, R. I., 1961, 114—122. *MR* **25**#1121 EI

HAMANA, M.
78 Injective envelopes of Banach modules, *Tôhoku Math. J.* (2) **30** (1978), 439—453. *MR* **80c**: 46070 EIH
79a Injective envelopes of C^*-algebras, *J. Math. Soc. Japan* **31** (1979), 181—197. *MR* **80g**: 46048 EIH
79b Injective envelopes of operator systems, *Publ. Res. Inst. Math. Sci.* **15** (1979), 773—785. *MR* **81h**: 46071 EIH

HANNA, A.
73 On injective modules, *Amer. Math. Monthly* **80** (1973), 297—298. *MR* **47**#5051 EI

HARDIE, K. A.
76 Projectivity and injectivity relative to a functor, *Math. Colloq. Univ. Cape Town* **10** (1975/76), 68—80. *MR* **54**#12863 EI

HARTING, R.
81 A remark on injectivity of sheaves of abelian groups, *Arch. Math. (Basel)* **36** (1981), 230—233. *MR* **82j**: 20101 EI
81 Injective Abelian groups in an elementary topos, Habilitationsschrift, Univ. Düsseldorf, 1981. EI
82 Internal coproduct, *Comm. Algebra* **10** (1982), 1173—1237. EI

HARTLEY, B.
77 Injective modules over group rings, *Quart. J. Math. Oxford* Ser. (2) **28** (1977), 1—29. *MR* **55**#8088 EI

HAYDON, R.
77 Injective Banach lattices, *Math. Z.* **156** (1977), 19—47. *MR* **57**#13438 EI
78 Sur les espaces de Banach réticulés injectifs, *Séminaire Choquet*, 16e année EI

(1976/77), *Initiation à l'analyse*, Exp. No. 14, Secrétariat Math., Paris, 1978. *MR* **58**#17777

HEAD, T. and ANDERSON, J. A.
80 On injective and flat commutative regular semigroups, *Semigroup Forum* **21** (1980), 283—284. *MR* **82b**: 20095 EI

HENKIN, L., MONK, J. D., TARSKI, A., ANDRÉKA, H. and NÉMETI, I.
81 *Cylindric Set Algebras*, Lecture Notes in Math., Vol. 883, Springer, Berlin—Heidelberg—New York, 1981. AP RS ES

HERRLICH, H.
65 Wann sind alle stetigen Abbildungen in Y konstant? *Math. Z.* **90** (1965), 152—154. *MR* **32**#3029 ECS
67 Fortsetzbarkeit stetiger Abbildungen und Kompaktheitsgrad topologischer Räume, *Math. Z.* **96** (1967), 64—72. *MR* **34**#8370 ECS

HERRLICH, H. and STRECKER, G. E.
73 *Category theory: an introduction*, Allyn and Bacon Series in Advanced Mathematics, Allyn and Bacon Inc., Boston, Mass., 1973. *MR* **50**#2284 ECS

HICKMAN, R.
79 Congruence extensions for semilattices with distributivity, *Algebra Universalis* **9** (1979), 179—198. *MR* **80c**: 06007 CEP

HIGGINS, P. M.
81 Epis are onto for generalised inverse semigroups, *Semigroup Forum* **23** (1981), 255—259. ES
83 The varieties of commutative semigroups for which epis are onto, *Proc. Roy. Soc. Edinburgh* **94A** (1983), 1—7. ES

HIGGS, D.
71 Remarks on residually small varieties, *Algebra Universalis* **1** (1971/72), 383—385. *MR* **46**#8939 RS EI AP

HIGMAN, G.
64 Amalgams of p-groups, *J. Algebra* **1** (1964), 301—305. *MR* **29**#4799 SAP

HILLER, H. L.
77 Injectives in arrow categories, *Portugaliae Math.* **36** (1977), 239—246. EI

HILTON, P. J.
72 Category theory, Notes from a NSF Short Course, Colgate Univ., Hamilton ES

HOFFMANN, B.
80 An injective characterization of Peano spaces, *Topology Appl.* **11** (1980), 37—46. *MR* **80m**: 54049 EI

HOFFMANN, R.-E.
81 Essential extensions of T_1-spaces, *Canad. Math. Bull.* **24** (1981), 237—240. *MR* **82j**: 18009 EIH

HOFMANN, K. H. and MISLOVE, M. W.
75 Epics of compact Lawson semilattices are surjective, *Arch. Math. (Basel)* **26** (1975), 337—345. *MR* **51**#12636 ES
76 Amalgamation in categories with concrete duals, *Algebra Universalis* **6** (1976), 327—347. *MR* **56**#5676 AP IPA ES

HONG, S. S.
73 On f-compactlike spaces and reflective subcategories, *General Topology and Appl.* **3** (1973), 319—330. *MR* **48**#12450 ECS

HORN, A. and KIMURA, N.
71 The category of semilattices, *Algebra Universalis* **1** (1971/72), 26—38. *MR* **47**#6568 ES EI EIH

HOWIE, J. M.
62 Embedding theorems with amalgamation for semigroups, *Proc. London Math. Soc.* (3) **12** (1962), 511—534. *MR* **25**#2139 SAP
63a An embedding theorem with amalgamation for cancellative semigroups, *Proc. Glasgow Math. Assoc.* **6** (1963), 19—26. *MR* **27**#221 SAP
63b Subsemigroups of amalgamated free products of semigroups, *Proc. London Math. Soc.* (3) **13** (1963), 672—686. *MR* **27**#3724 SAP
64 The embedding of semigroup amalgams, *Quart. J. Math. Oxford. Ser.* (2) **15** (1964), 55—68 and 277. *MR* **28**#3107 SAP

68 Commutative semigroup amalgams, *J. Austral. Math. Soc.* **8** (1968), 609—630. *MR* **37**#6388 — AP ES

75 Semigroups amalgams whose cores are inverse semigroups, *Quart. J. Math. Oxford Ser.* (2) **26** (1975), 23—45. *MR* **52**#10922 — SAP

76 *An introduction to semigroup theory*, L. M. S. Monographs, No. 7, Academic Press, London—New York, 1976. *MR* **57**#6235 — SAP AP ES

a Epimorphisms and amalgamations: a survey of recent progress, *Semigroups. Structure and universal algebraic problems* (Proc. Conf. Szeged, 1981), Colloq. Math. Soc. J. Bolyai, Vol. 39, North-Holland, Amsterdam (to appear). — AP SAP ES IPA

HOWIE, J. M. and ISBELL, J. R.

67 Epimorphisms and dominions, II, *J. Algebra* **6** (1967), 7—21. *MR* **35**#105b — ES

HUET, P.

72 Un example d'épimorphisme d'anneaux non surjectif, *Bull. Sci. Math.* (2) **96** (1972), 151—153. *MR* **52**#13807 — ES

HULE, H.

76 Über die Eindeutigkeit der Lösungen algebraischer Gleichungssysteme, *J. Reine Angew. Math.* **282** (1976), 157—161. *MR* **53**#13080 — AP IPA

78 Relations between the amalgamation property and algebraic equations, *J. Austral. Math. Soc. Ser. A* **22** (1978), 257—263. *MR* **58**#5454 — AP IPA

79 Solutionally complete varieties, *J. Austral. Math. Soc. Ser. A* **28** (1979), 82—86. *MR* **81i**: 08007 — AP IPA

HULE, H. and MÜLLER, W. B.

76 On the compatibility of algebraic equations with extensions, *J. Austral. Math. Soc. Ser. A* **21** (1976), 381—383. *MR* **53**#13076 — AP

HUNG, H. H.

73 The amalgamation property for G-metric spaces, *Proc. Amer. Math. Soc.* **37** (1973), 53—58. *MR* **47**#2560 — AP

HUQ, S. A.

72a A note on monics and epics in varieties of categories, *Fund. Math.* **76** (1972), 117—119. *MR* **46**#3587 — ES

72b A note on generators in categories, *Cahiers Topologie Géom. Différentielle* **13** (1972), 393—395, 443. *MR* **48**#367 — ECS

78 Discussion of the condition "monics are equalizers" implies "epis are surjective" in categories, *Comment. Math. Univ. St. Paul.* **27** (1978/79), 5—9. *MR* **80b**: 18002 — IPA ES

HUŠEK, M.

69 The class of k-compact spaces is simple, *Math. Z.* **110** (1969), 123—126. *MR* **39**#6260 — ECS

72 Perfect images of E-compact spaces, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 41—45. *MR* **46**#6289 — ECS

IMAOKA, T.

76a Free products with amalgamation of commutative inverse semigroups, *J. Austral. Math. Soc. Ser. A* **22** (1976), 246—251. *MR* **55**#12838 — SAP

76b Free products with amalgamation of bands, *Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci.* **10** (1976), 7—17. *MR* **55**#3118 — SAP

77a Free products with amalgamation of orthodox semigroups, *Seminar on semigroup theory* (Res. Inst. Math. Sci., Kyoto Univ., Kyoto 1977), *Sûrikaisekikenkyûsho Kyôkyûroku* No. 292 (1977), 40—55. *MR* **57**#12733 — SAP

77b Free products with amalgamation of orthodox semigroups, II, *Proc. First Sympos. on Semigroups* (Shimane Univ., Matsue, 1977), Shimane University, Matsue, 1977, 65—71. *MR* **57**#12734 — SAP

78a The embedding of generalized inverse semigroup amalgams, *Mem. Fac. Sci. Shimane Univ.* **12** (1978), 1—4. *MR* **80c**: 20083b — SAP

78b The embedding of generalized inverse semigroup amalgams, *Proceedings 2nd Symposium on Semigroups* (Tokyo Gakugei Univ., Tokyo, 1978), Tokyo Gakugei Univ., Tokyo, 1978, 41—44. *MR* **80c**: 20083a — SAP

79 The embedding of regular semigroup amalgams, *Proceedings of a Symposium on Regular Semigroups* (Northern Illinois Univ., De Kalb, Ill, 1979), Northern Illinois Univ., De Kalb, Ill, 1979, 92—100. *MR* **82j**: 20120 (See also, — SAP

in a shortened form, in *Proceedings of the 3rd Symposium on Semigroups* (Inter-Univ. Sem. House of Kansai, Kobe, 1979), Osaka Univ., Osaka, 1980, 7—10. *MR* **81i**: 20082)

INGRAO, B.

72a Quelques propriétés de la catégories des anneaux absolument plats réduits. Formule des annulateurs, *C. R. Acad. Sci. Paris Sér. A—B* **274** (1972), A1597—A1600. *MR* **46**#202 SAP

72b Quelques propriétés de la catégorie des anneaux absolument plats réduits. Surjectivité des épimorphismes, *C. R. Acad. Sci. Paris Sér. A—B* **274** (1972), A1753—A1756. *MR* **46**#203 ES

ISBELL, J. R.

57 Some remarks concerning categories and subspaces, *Canad. J. Math.* **9** (1957), 563—577. *MR* **20**#923 ES

64a Six theorems about injective metric spaces, *Comment. Math. Helv.* **39** (1964), 65—76. *MR* **32**#431 EI

64b Injective envelopes of Banach spaces are rigidly attached, *Bull. Amer. Math. Soc.* **70** (1964), 727—729. *MR* **32**#1537 EIH

66a Epimorphisms and dominions, *Proc. Conf. Categorical Algebra* (La Jolla, Calif. 1965), Springer, New York, 1966, 232—246. *MR* **35**#105a ES

66b Structure of categories, *Bull. Amer. Math. Soc.* **72** (1966), 619—655. *MR* **34**#5896 ECS EAR

68a Small subcategories and completeness, *Math. Systems Theory* **2** (1968), 27—50. *MR* **37**#269 EAR ECS

68b Epimorphisms and dominions, III, *Amer. J. Math.* **90** (1968), 1025—1030. *MR* **38**#5877 ES

69a Three remarks on injective envelopes of Banach spaces, *J. Math. Anal. Appl.* **27** (1969), 516—518. *MR* **40**#4739 EIH

69b Epimorphisms and dominions, IV, *J. London Math. Soc.* (2) **1** (1969), 265—273. *MR* **41**#1774 ES

72 Beatific semigroups, *J. Algebra* **23** (1972), 228—238. *MR* **46**#5497 EI EIH

73 Epimorphisms and dominions, V, *Algebra Universalis* **3** (1973), 318—320. *MR* **50**#2029 ES

ISÉKI, K.

75 Epimorphisms of categories of various topological spaces, *Math. Sem. Notes Kobe Univ.* **3** (1975), 189—191. *MR* **53**#14389 ES

ISKANDER, A. A.

65 Universal algebras with relations and amalgams, *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **1965**, no. 4, 22—28 (in Russian). *MR* **33**#86 AP

ISKANDER, A. A. and YAQUB, F. M.

71 Commutative rings with the congruence extension property, *Notices Amer. Math. Soc.* **18** (1971), 804. CEP

JEŽEK, J.

76 EDZ-varieties: The Schreier property and epimorphisms onto, *Comment. Math. Univ. Carolinae* **17** (1976), 281—290. *MR* **53**#13077 AP IPA SAP ES

77 Varieties of algebras with equationally definable zeros, *Czechoslovak Math. J.* **27** (**102**) (1977), 394—414. *MR* **56**#11872 AP SAP ES RS EI

JEŽEK, J. and KEPKA, T.

77 Varieties of abelian quasigroups, *Czechoslovak Math. J.* **27** (**102**) (1977), 473—503. *MR* **56**#8740 SAP RS

79 Varieties of quasigroups determined by short strictly balanced identities, *Czechoslovak Math. J.* **29** (104) (1979), 84—96. *MR* **80b**: 20092 SAP CEP RS

JOHN, R.

77 A note on implicational subcategories, *Contributions to Universal Algebra* (Proc. Conf. Szeged, 1975), Colloq. Math. Soc. J. Bolyai, Vol. 17, North-Holland, Amsterdam, 1977, 213—222. *MR* **58**#28119 EI

JOHNSON, JR. C. S.

73 A characterization of injective *S*-systems over a semilattice, *J. Natur. Sci. Math.* **13** (1973), 239—241. *MR* **52**#10519 EI

JOHNSON, JR., C. S. and MCMORRIS, F. R.
72a Injective hulls of certain S-systems over a semilattice, *Proc. Amer. Math. Soc.* **32** (1972), 371—375. *MR* **44**#6875 EIH
72b Completely cyclic injective semilattices, *Proc. Amer. Math. Soc.* **36** (1972), 385—388. *MR* **46**#9213 EI
JOHNSON, J. S.
70 Amalgamation of polyadic algebras, *Trans. Amer. Math. Soc.* **149** (1970), 627—652. *MR* **44**#1548 AP
JOHNSTONE, P. T.
81 Injective toposes, *Continuous Lattices* (Proc. Conf. Bremen, 1979), Lecture Notes in Math., Vol. 871, Springer, Berlin—Heidelberg—New York, 1981, 284—297. EI
JOHNSTONE, P. T. and JOYAL, A.
82 Continuous categories and exponentiable toposes, *J. Pure Appl. Algebra* **25** (1982), 255—296. EI
JÓNSSON, B.
56 Universal relational systems, *Math. Scand.* **4** (1956), 193—208. *MR* **20**#3091 SAP
60 Homogeneous universal relational systems, *Math. Scand.* **8** (1960), 137—142. *MR* **23**#A2328 AP
62 Algebraic extensions of relational systems, *Math. Scand.* **11** (1962), 179—205. *MR* **27**#4777 AP SAP
65 Extensions of relational structures, *Theory of Models* (Proc. Internat. Sympos. Berkeley, 1963), North-Holland, Amsterdam, 1965, 146—157. *MR* **34**#2463 AP
67 Algebras whose congruence lattices are distributive, *Math. Scand.* **21** (1967), 110—121. *MR* **38**#5689 RS
82 Varieties of lattices: Some open problems, *Universal Algebra* (Proc. Conf. Esztergom, 1977), Colloq. Math. Soc. J. Bolyai, 29, North-Holland, Amsterdam, 421—436 (to appear). AP
KACOV, E. B.
76 Flat functors, *Mat. Zametki* **19** (1976), 577—586 (in Russian). *MR* **53**#5700 EI EIH
KAIJSER, S.
76 Some remarks on injective Banach algebras, *Spaces of Analytic Functions* (Sem. Functional Anal. and Function Theory, Kristiansand, 1975), Lecture Notes in Math., Vol. 512, Springer, Berlin, 1976, 84—95, *MR* **58**#17879 EI
KALMAN, J. A.
71 Subdirect decomposition of distributive quasilattices, *Fund. Math.* **71** (1971), 161—163. *MR* **45**#5040 RS
KATRIŇÁK, T.
72 Subdirectly irreducible modular p-algebras, *Algebra Universalis* **2** (1972), 166—173. *MR* **46**#8921 RS
73 Primitive Klassen von modularen S-Algebren, *J. Reine Angew. Math.* **261** (1973), 55—70. *MR* **52**#13542 RS
74a Injective double Stone algebras, *Algebra Universalis* **4** (1974), 259—267. *MR* **51**#10187 EI
74b Congruence extension property for distributive double p-algebras, *Algebra Universalis* **4** (1974), 273—276. *MR* **50**#6953 CEP
77a Essential extensions of Stone algebras, *Algebra Universalis* **7** (1977), 1—3. *MR* **55**#224 EIH
77b Essential extensions and injective hulls of double Stone algebras, *Algebra Universalis* **7** (1977), 5—23. *MR* **55**#2695 EIH
79 Subdirectly irreducible p-algebras, *Algebra Universalis* **9** (1979), 116—126. *MR* **80f**: 06004 RS
80 Subdirectly irreducible distributive double p-algebras, *Algebra Universalis* **10** (1980), 195—219. *MR* **81g**: 06006 RS
KATZ, E. and MORRIS, S. A.
83 Free products of k_ω-topological groups with normal amalgamation, *Topology Appl.* **15** (1983), 189—196. SAP

83 On the Hausdorffness of free products of topological groups with normal amalgamation, *Math. Chron.* **12** (1983), 113—117. AP
a Free products of topological groups with amalgamation, I—II (preprint). AP

KAWAHARA, Y.
75 On the class of regular epimorphisms, *Comm. Algebra* **3** (1975), 851—857. *MR* **52**#10836 ES

KELLY, G. M.
69 Monomorphisms, epimorphisms, and pull-backs, *J. Austral. Math. Soc.* **9** (1969), 124—142. *MR* **39**#1515 IPA TP ECS

KEPKA, T.
77 Epimorphisms in some groupoid varieties, *Comment. Math. Univ. Carolinae* **18** (1977), 265—279. *MR* **55**#12600 SAP ES
81 Strong amalgamation property in some groupoid varieties, *Finite Algebra and Multiple-Valued Logic* (Proc. Conf. Szeged, 1979), Colloq. Math. Soc. J. Bolyai, Vol. 28, North-Holland, Amsterdam, 1981, 373—385. SAP

KERTÉSZ, A.
62 Eine kennzeichnende Eigenschaft der injektiven Moduln, *Wiss. Z. Martin-Luther-Univ. Halle—Wittenberg Math.-Natur. Reihe* **11** (1962), 737—739. *MR* **29**#5860 AP EI

KHAN, M. S. and MORRIS, S. A.
82 Free products of topological groups with central amalgamation, I—II, *Trans. Amer. Math. Soc.* **273** (1982), 405—416, 417—432. AP

KHAN, N. M.
82 Epimorphisms, dominions, and varieties of semigroups, *Semigroup Forum* **25** (1982), 331—337. ES

KIMURA, N.
57 On semigroups, Thesis, Tulane University, New Orleans. SAP

KISS, E.
74 Über eine Kategorie von Halbmoduln, *Studia Univ. Babeş—Bolyai Ser. Math.-Mech.* **19** (1974), no. 2, 11—15. *MR* **51**#5680 ES

KISS, E. W.
81 Each Hamiltonian variety has the congruence extension property, *Algebra Universalis* **12** (1981), 395—398. *MR* **82h**: 08002 CEP
a Injectivity and related concepts in modular varieties, I. The congruence extension property (manuscript). CEP

KLEIN, A.
79 Injectives and simple objects, *J. Pure Appl. Algebra* **15** (1979), 243—245. *MR* **80g**: 18005 EI

KLEINER, I.
66 Free and injective Lie modules, *Canad. Math. Bull.* **9** (1966), 29—42. *MR* **33**#4111 EI EIH

KLEISLI, H. and WU, Y. C.
64 On injective sheaves, *Canad. Math. Bull.* **7** (1964), 415—423. *MR* **29**#5882 EI

KNAUER, U.
69 Special morphisms and amalgamations in commutative semigroups, *Materials of the* 10th *Colloq. on Algebra*, vol. 2, p. 117, Novosibirsk (in Russian). SAP

KNIGHT, J.
70 On epimorphisms of non-commutative rings, *Proc. Cambridge Philos. Soc.* **68** (1970), 589—600. *MR* **42**#4595 ES

KNÖRR, R.
75 Ringepimorphismen und Morita-projektive Moduln über kommutativen Dedekind-Ringen, *Comment. Math. Helv.* **50** (1975), 267—275. *MR* **52**#13795 ES

KOLLÁR, J.
80 Injectivity and congruence extension property in congruence distributive equational classes, *Algebra Universalis* **10** (1980), 21—26. *MR* **81c**: 08014 CEP EI

KOPPELBERG, S.
73 Injective hulls of chains, *Arch. Math. (Basel)* **24** (1973), 225—229. *MR* **48**#194 EIH

KORNIENKO, V. S.
77 Flat polygons over distributive lattices, *Ordered sets and lattices*, **4**, Izdat. Saratov. Univ., Saratov, 1977, 69—85 (in Russian). *MR* **58**#5435 EI

KOVÁCS, L. G. and NEWMAN, M. F.
82 Injectives in varieties of groups, *Algebra Universalis* **14** (1982), 398—400. EI

KRAUSS, P.
72 Extending congruence relations, *Proc. Amer. Math. Soc.* **31** (1972), 517—520. *MR* **44**#2688 CEP
73 On the embedding and amalgamation properties, *Notices Amer. Math. Soc.* **20** (1973), 283. AP
a The structure of filtral varieties, II. Weakly injective and injective members (preprint). EI

KUROŠ, A. G.
67 *Theory of groups*, Third augmented edition, Izdat. Nauka, Moscow, 1967. *MR* **40**#2740 SAP

KUROŠ, A. G., LIVŠIC, A. KH. and ŠUL'GEĬFER, E. G.
60 Foundations of the theory of categories, *Uspehi Mat. Nauk* **15** (1960), no. 6 (96), 3—52 (in Russian). *MR* **22**#9526; *Russian Math. Surveys* **15** (1960), no. 6, 1—46. *MR* **23**#A1688. In German with CALENKO, M. S., *Zur Theorie der Kategorien*, Math. Forschungsberichte, 15, VEB Deutscher Verlag der Wiss., Berlin, 1963. *MR* **32**#135 ES

LACEY, H. E. and COHEN, H. B.
69 On injective envelopes of Banach spaces, *J. Functional Analysis* **4** (1969), 11—30. *MR* **39**#4644 EIH

LAGRANGE, R.
74 Amalgamation and epimorphisms in m-complete Boolean algebras, *Algebra Universalis* **4** (1974), 277—279. *MR* **51**#300 SAP ES

LAI, H.-F.
80 On Kleene algebras, *Algebra Universalis* **11** (1980), 117—126. *MR* **82a**: 06016 ES EI

LAKSER, H.
70 Injective hulls of Stone algebras, *Proc. Amer. Math. Soc.* **24** (1970), 524—529. *MR* **41**#119 EI EIH
71 The structure of pseudocomplemented distributive lattices, I. Subdirect decomposition, *Trans. Amer. Math. Soc.* **156** (1971), 335—342. *MR* **43**#123 RS
73 Injective completeness of varieties of unary algebras: A remark on a paper of Higgs, *Algebra Universalis* **3** (1973), 129—130. *MR* **49**#189 AP EI

LALLEMENT, G.
75 Amalgamated products of semigroups: The embedding problem, *Trans. Amer. Math. Soc.* **206** (1975), 375—394. *MR* **51**#759 SAP
77 Sur les produits amalgamés de monoïdes, *Séminaire d'Algèbre Paul Dubreil, 29ème année* (Paris, 1975/76), Lecture Notes in Math., Vol. 586, Springer, Berlin, 1977, 25—33. *MR* **58**#28232 SAP

LAMARTIN, W. F.
76 Epics in the category of T_2 k-groups need not have dense range, *Colloq. Math.* **36** (1976), 37—41. *MR* **55**#556 ES
77 On the foundations of k-group theory, *Dissertationes Math. (Rozprawy Mat.)* **146** (1977), 32 pp. *MR* **58**#984 ES

LAMBEK, J.
66 *Lectures on rings and modules*, Blaisdell Publishing Co., Waltham, Mass.—Toronto, Ont.—London, 1966. *MR* **34**#5857 EI EIH
76 Localization at epimorphisms and quasi-injectives, *J. Algebra* **38** (1976), 163—181. *MR* **56**#12046 ES EI

LAMBEK, J. and RATTRAY, B. A.
73 Localization at injectives in complete categories, *Proc. Amer. Math. Soc.* **41** (1973), 1—9. *MR* **54**#2750 ECS EI

LANCKAU, R.
69 Das verallgemeinerte freie Produkt in primitiven Klassen universeller Algebren, I, *Publ. Math. Debrecen* **16** (1969), 307—323. *MR* **42**#171 SAP AP

70 Das verallgemeinerte freie Produkt in primitiven Klassen universeller Algebren, II, *Publ. Math. Debrecen* **17** (1970), 321—331. *MR* **46**#5209 SAP AP

LAPIŃSKA, C.
77 Generalized free m-products of Boolean m-algebras with m-amalgamated m-subalgebra, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **25** (1977), 221—223. *MR* **56**#2894 AP

LAPLAZA, M. L.
66 Note on epimorphisms in the category of rings, *Rev. Mat. Hisp.-Amer.* (4) **26** (1966), 67—72 (in Spanish). *MR* **36**#241 ES

LAZARD, D.
68 Épimorphismes plats d'anneaux, *C. R. Acad. Sci. Paris Sér. A—B* **266** (1968), A314—A316. *MR* **39**#197c ES
69 Autour de la platitude, *Bull. Soc. Math. France* **97** (1969), 81—128. *MR* **40**#7310; erratum **41**, p. 1965 ES

LAZARD, D. and HUET, P.
70 Dominions des anneaux commutatifs, *Bull. Sci. Math.* (2) **94** (1970), 193—199. *MR* **42**#5980 ES

LEE, K. B.
70 Equational classes of distributive pseudo-complemented lattices, *Canad. J. Math.* **22** (1970), 881—891. *MR* **42**#151 RS

LEHMANN, D. and PASZTOR, A.
82 Epis need not be dense, *Theoret. Comput. Sci.* **17** (1982), 151—161. ES

LEROUX, P.
71 Sur les structures d'effacement, *Math. Z.* **121** (1971), 329—340. *MR* **46**#1883 EI

LEVINE, J.
71 On the injective hulls of semisimple modules, *Trans. Amer. Math. Soc.* **115** (1971), 115—126. *MR* **46**#5389 EIH

LINDERHOLM, C. E.
70 A group epimorphism is surjective, *Amer. Math. Monthly* **77** (1970), 176—177. *MR* **41**#303 ES

LINTON, F. E. J.
66 Injective Boolean σ-algebras, *Arch. Math. (Basel)* **17** (1966), 383—387. *MR* **33**#5539 ES

LJAPIN, E. S.
69 Independence of subsemigroups of a semigroup, *Dokl. Akad. Nauk SSSR* **185** (1969), 1229—1231 (in Russian). *MR* **40**#259 SAP
70 Intersections of independent subsemigroups of a semigroup, *Izv. Vyss. Učebn. Zaved. Matematika* **1970**, no. 4 (95), 67—73 (in Russian). *MR* **43**#7526 SAP
74 Independent semigroup extensions of partial groupoids, *Sovremennaya Algebra*, 2, Leningrad. Gos. Ped. Inst., Leningrad, 1974, 55—71 (in Russian). *MR* **53**#13450 SAP

LOEBL, R. I.
74 Injective von Neumann algebras, *Proc. Amer. Math. Soc.* **44** (1974), 46—48. *MR* **49**#5870 EI

LORENZ, F.
69 Die Epimorphismen der Ringe von Operatoren, *Arch. Math. (Basel)* **20** (1969), 48—53. *MR* **39**#3326 ES

LUEDEMAN, J. K., MCMORRIS, F. R. and SIM, S.-K.
78 Semigroups for which every totally irreducible S-system is injective, *Comment. Math. Univ. Carolinae* **19** (1978), 27—35. *MR* **57**#16446 EI

L'VOV, I. V.
a Finitely approximable varieties of rings (unpublished note). RS

MACDONALD, J. L.
74 Conditions for a universal mapping of algebras to be a monomorphism, *Bull. Amer. Math. Soc.* **80** (1974), 888—892. *MR* **52**#10551 SAP

MACLANE, S.
50 Duality for groups, *Bull. Amer. Math. Soc.* **56** (1950), 485—516. *MR* **14**—133 EI

71 *Categories for the working mathematician,* Graduate Texts in Mathematics, Vol. 5, Springer-Verlag, New York—Heidelberg—Berlin, 1971. *MR* **50**#7275 ECS

MĄCZYŃSKI, M. J.

66 Generalized free m-products of m-distributive Boolean algebras with an m-amalgamated subalgebra, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **14** (1966), 539—542. *MR* **34**#4177 AP

69 The amalgamation of an α-distributive α-complete Boolean algebra, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **17** (1969), 415—418. *MR* **40**#7166 AP

72 Strong $\mathfrak{m}$-extension property and $\mathfrak{m}$-amalgamation in Boolean algebras, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **20** (1972), 259—263. *MR* **46**#3396 AP

MĄCZYŃSKY, M. J. and TRACZYK, T.

67 The m-amalgamation property for m-distributive Boolean algebras, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **15** (1967), 57—60; loose errata, *ibid.* **16** (1968), no. 2. *MR* **39**#110 AP

MAKSIMOVA, L. L.

77 Craig's interpolation theorem and amalgamable varieties, *Dokl. Akad. Nauk SSSR* **237** (1977), 1281—1284 (in Russian). AP SAP

MAMEDOV, O. M.

78 On injectivity in semigroups, 2nd *All-Union Simp. on Semigroup Theory,* Abstracts, p. 54. Sverdlovsk (in Russian). EI

MARANDA, J.-M.

60 On pure subgroups of abelian groups, *Arch. Math. (Basel)* **11** (1960), 1—13. *MR* **22**#5672 EI

64 Injective structures, *Trans. Amer. Math. Soc.* **110** (1964), 98—135. *MR* **29**#1236 EI

MARKOWSKY, G.

77 Categories of chain-complete posets, *Theoret. Comput. Sci.* **4** (1977), 125—135. *MR* **56**#11859 AP EI

MASON, G.

76 Injective and projective near-ring modules, *Compositio Math.* **33** (1976), 43—54. *MR* **54**#7558 EI

MAZET, P.

68a Générateurs, relations et épimorphismes d'anneaux, *C. R. Acad. Sci. Paris Sér. A—B* **266** (1968), A309—A311. *MR* **39**#197a ES

68b Charactérisations des épimorphismes par relations et générateurs, *Séminaire d'algèbre commutative P. Samuel* 1967/68, *Les épimorphismes d'anneaux,* Secrétariat math., Paris, 1968. ES

MCKAY, S.

69 Surjective epimorphisms in classes of groups, *Quart. J. Math. Oxford Ser.* (2) **20** (1969), 87—90. *MR* **39**#1558 ES

MCKENZIE, R.

81 Residually small varieties of semigroups, *Algebra Universalis* **13** (1981), 171—201. *MR* **82k**: 20097 RS

82 Residually small varieties of K-algebras, *Algebra Universalis* **14** (1982), 181—196. RS

83 A note on residually small varieties of semigroups, *Algebra Universalis* **17** (1983), 143—149. RS

MCKENZIE, R. and SHELAH, S.

74 The cardinals of simple models for universal theories, *Proceedings of the Tarski Symposium* (Proc. Sympos. Pure Math., Vol. XXV, Univ. California, Berkeley, Calif., 1971), Amer. Math. Soc., Providence, R. I., 1974, 53—74. *MR* **50**#12711 RS

MEGYESI, L.

74a Extension of semigroups by means of a separating unit ideal subsemigroup, *Sovremennaya Algebra,* **2**, Leningrad. Gos. Ped. Inst., Leningrad, 1974, 72—97 (in Russian). *MR* **53**#3163a SAP

74b Two problems on the extensions of semigroups, *Sovremennaya Algebra,* **2**, SAP

Leningrad. Gos. Ped. Inst., Leningrad, 1974, 98—108 (in Russian). *MR* **53**#3163b

77 The imbedding of semigroups in a semigroup in which the original semigroups are independent, *Acta Sci. Math. (Szeged)* **39** (1977), 329—340 (in Russian). *MR* **57**#16437 SAP

78 Construction of a semigroup amalgam that can be independently imbedded into a semigroup, *Acta Sci. Math. (Szeged)* **40** (1978), 111—120 (in Russian). *MR* **58**#22356 SAP

MELDRUM, J. P.

78 Injective near-ring modules over Z_n, *Proc. Amer. Math. Soc.* **68** (1978), 16—18. *MR* **56**#15707 EI

MESKHI, V. JU.

77 Residually small varieties of derivative algebras and pseudo-Boolean algebras (Russian), 14th *All-Union Conf. on Algebra* (Novosibirsk, 1977), Abstracts, vol. 2, p. 109. RS

79 Injective Heyting—Stone algebras with involution (Russian), 15th *All-Union Conf. on Algebra* (Krasnoyarsk, 1979), Abstracts, vol. 2, p. 107. EI

MICHLER, G. O. and VILLAMAYOR, O. E.

73 On rings whose simple modules are injective, *J. Algebra* **25** (1973), 185—201. *MR* **47**#5052 EI

MICHLER, L.

75 Über die Epimorphismen von Kategorien mehrbasiger algebraischer Systeme, *Math. Nachr.* **69** (1975), 123—132. *MR* **54**#2748 ES

MITCHELL, B.

65 *Theory of categories*, Pure and Applied Mathematics, Vol. XVII, Academic Press, New York—London, 1965. *MR* **34**#2647 EIH

72 The dominion of Isbell, *Trans. Amer. Math. Soc.* **167** (1972), 319—331. *MR* **45**#3511 ES

MONK, J. D.

67 Nontrivial *m*-injective Boolean algebras do not exist, *Bull. Amer. Math. Soc.* **73** (1967), 526—527. *MR* **35**#92 EI

MONRO, G. P.

74 The strong amalgamation property for complete Boolean algebras, *Z. Math. Logik Grundlagen Math.* **20** (1974), 499—502. *MR* **55**#2563 SAP

MORLEY, M. D. and VAUGHT, R. L.

62 Homogeneous universal models, *Math. Scand.* **11** (1962), 37—57. *MR* **27**#37 AP

MRÓWKA, S.

56 On universal spaces, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **4** (1956), 479—481. *MR* **19**—669 ECS

MYSIOR, A.

78 The category of all zero-dimensional realcompact spaces is not simple, *General Topology Appl.* **8** (1978), 259—264. *MR* **57**#7535 ECS

NACHBIN, L.

50 A theorem of the Hahn-Banach type for linear transformations, *Trans. Amer. Math. Soc.* **68** (1950), 28—46. *MR* **11**—369 EI

NELSON, E.

75 Injectivity and equational compactness in the class of $\aleph_0$-semilattices, *Canad. Math. Bull.* **18** (1975), 387—392. *MR* **52**#13532 EI

80 An elementary proof that there are no non-trivial injective lattices, *Algebra Universalis* **10** (1981), 264—265. *MR* **81c**: 06009 EI

NÉMETI, I.

a Cylindric-relativised set algebras and Bo_α-s have strong amalgamation (preprint). SAP

NEMITZ, W. C. and WHALEY, T. P.

71 Varieties of implicative semilattices, *Pacific J. Math.* **37** (1971), 759—769. *MR* **47**#84 RS

NEUMANN, B. H.

54 An essay on free products of groups with amalgamations, *Philos. Trans. Roy. Soc. London Ser. A* **246** (1954), 503—554. *MR* **16**—10 SAP AP

60a On amalgams of periodic groups, *Proc. Roy. Soc. London Ser. A* **255** (1960), 447—489. *MR* **22**#4758 SAP

60b Permutational products of groups, *J. Austral. Math. Soc.* **1** (1959/60), 299—310. *MR* **23**#A922 SAP

NEUMANN, B. H. and NEUMANN, H.

50 A remark on generalized free products, *J. London Math. Soc.* **25** (1950), 202—204. *MR* **12**—76 SAP

53 A contribution to the embedding theory of group amalgams, *Proc. London Math. Soc.* (3) **3** (1953), 243—256. *MR* **15**—286 SAP

NEUMANN, B. H. and WIEGOLD, J.

62 On certain embeddability criteria for group amalgams, *Publ. Math. Debrecen* **9** (1962), 57—64. *MR* **26**#3763 SAP

NEUMANN, H.

48 Generalized free products with amalgamated subgroups, *Amer. J. Math.* **70** (1948), 590—625. *MR* **10**—233 SAP

50 Generalized free sums of cyclical groups, *Amer. J. Math.* **72** (1950), 671—685. *MR* **12**—478 SAP

51 On an amalgam of abelian groups, *J. London Math. Soc.* **26** (1951), 228—232. *MR* **12**—800 SAP

NIEDERLE, J.

74 Injektive Objekte in gewissen Kategorien der Verbände, *Arch. Math. (Brno)* **10** (1974), 63—65. *MR* **51**#12639 EI

NORTHCOTT, D. G.

74 Injective envelopes and inverse polynomials, *J. London Math. Soc.* (2) **8** (1974), 290—296. *MR* **50**#13003 EIH

NUMMELA, E. C.

78 On epimorphisms of topological groups, *General Topology Appl.* **9** (1978), 155—167. *MR* **58**#11204 ES

OLIVIER, J.-P.

68 Anneaux absolument plats universels et épimorphismes d'anneaux, *C. R. Acad. Sci. Paris Sér. A—B* **266** (1968), A317—A318. *MR* **39**#197d ES

ORDMAN, E. T.

74 Free products of topological groups with equal uniformities, I, *Colloq. Math.* **31** (1974), 37—43. *MR* **51**#10519 SAP

OSWALD, A.

77 A note on injective modules over a d.g. near-ring, *Canad. Math. Bull.* **20** (1977), 267—269. *MR* **57**#3200 EI

PAREIGIS, B. and SWEEDLER, M. E.

70 On generators and cogenerators, *Manuscripta Math.* **2** (1970), 49—66. *MR* **41**#5447 ECS

PASTIJN, F.

82 Constructions of varieties that satisfy the amalgamation property or the congruence extension property, *Studia Sci. Math. Hungar.* **17** (to appear). AP CEP

PASZTOR, A.

77 A category-theoretical characterization of surjective homomorphisms of partial algebras, *Studia Sci. Math. Hungar.* **12** (1977), 251—256. *MR* **81m**: 08009 ES

82 The epis of POS(Z), *Comment. Math. Univ. Carolinae* **23** (1982), 285—299. ES

83a Epis of some categories of Z-continuous partial algebras, *Acta Cybernet.* **6** (1983), 111—123. ES

83b Surjections of complete posets and of continuous algebras, *Algebra Universalis* **17** (1983), 65—72. ES

PEDERSEN, F. D.

75 Epimorphisms in the category of abelian l-groups, *Proc. Amer. Math. Soc.* **53** (1975), 311—317. *MR* **58**#28135 ES

PETRESCU, I.

71 Injective objects in the category of Morgan algebras, *Rev. Roumaine Math. Pures Appl.* **16** (1971), 921—926. *MR* **44**#3940 EI

PHILLIPS, R. S.
40 On linear transformations, *Trans. Amer. Math. Soc.* **48** (1940), 516—541. *MR* **2**—318 EI

PIERCE, K. R.
72a Amalgamating abelian ordered groups, *Pacific J. Math.* **43** (1972), 711—723. *MR* **47**#8389 AP
72b Amalgamations of lattice ordered groups, *Trans. Amer. Math. Soc.* **172** (1972), 249—260. *MR* **48**#3835 AP
76 Amalgamated sums of abelian *l*-groups, *Pacific J. Math.* **65** (1976), 167—173. *MR* **55**#2702 AP

PIERCE, R. S.
68 *Introduction to the theory of abstract algebras*, Holt, Rinehart and Winston, New York—Montreal, Que.—London, 1968. *MR* **37**#2655 AP EI

PIGOZZI, D.
71 Amalgamation, congruence extension, and interpolation properties in algebras, *Algebra Universalis* **1** (1971/72), 269—349. *MR* **46**#57 SAP AP CEP
81a On the structure of equationally complete varieties, I, *Colloq. Math.* **45** (1981), 191—201. AP RS
81b On the structure of equationally complete varieties, II, *Trans. Amer. Math. Soc.* **264** (1981), 301—319. AP RS

PITTS, A. M.
83 Amalgamation and interpolation in the category of Heyting algebras, *J. Pure Appl. Algebra* **29** (1983), 155—165. AP

PLATT, C. R.
71a One-to-one and onto in algebraic categories, *Algebra Universalis* **1** (1971/72), 117—124. *MR* **45**#5196 ES
71b Example of a concrete category with no embedding into sets under which every epimorphism is represented by a surjection, *Algebra Universalis* **1** (1971), 128. *MR* **44**#2685 ES

POGUNTKE, D.
70 Epimorphisms of compact groups are onto, *Proc. Amer. Math. Soc.* **26** (1970), 503—504. *MR* **41**#8577 ES
73 Einige Eigenschaften des Darstellungsringes kompakter Gruppen, *Math. Z.* **130** (1973), 107—117. *MR* **49**#3020 IPA

POLIN, S. V.
78 Injective envelopes in categories of functors, *Algebras and modules, Mat. Issled.* **48** (1978), 69—79 (in Russian). *MR* **58**#5858 EIH

POPA, N.
65 Injective objects in the category of ordered Archimedean spaces with axial element, *Stud. Cerc. Mat.* **17** (1965), 1333—1336 (in Romanian). *MR* **34**#8156 EI

POPESCU, N. and POPESCU, L.
79 *Theory of categories*, Editura Academiei, Bucharest; Sijthoff and Noordhoff International Publishers, Alphen aan den Rijn, 1979. *MR* **80i**: 18001 ECS EIH

PORST, H.-E.
81 Characterization of injective envelopes, *Cahiers Topologie Géom. Différentielle* **22** (1981), 399—406. EIH

POTHOVEN, K. L.
69 Projective and injective objects in the category of Banach spaces, *Proc. Amer. Math. Soc.* **22** (1969), 437—438. *MR* **39**#3291 EI

PRATHER, R. E.
72 Epimorphisms in certain categories of transducers, *Information and Control* **21** (1972), 301—305. *MR* **51**#10434 ES
76 Epimorphisms of free monoids, *Linear Algebra Appl.* **13** (1976), 201—205. *MR* **53**#577 ES

PREHN, R.
79 Injektive Gruppen über Fastringen, *Publ. Math. Debrecen* **26** (1979), 75—90. *MR* **81c**: 16052 EI EIH

PRELLER, A.
69 Interpolation et amalgamation, *Publ. Dép. Math. (Lyon)* **6** (1969), fasc. 1, 49—65. *MR* **39**#6743 — AP

PRESTON, G. B.
73 Inverse semigroups: some open questions, *Proceedings of a Symposium on Inverse Semigroups and their Generalisations* (Northern Illinois Univ., DeKalb, Ill., 1973), Northern Illinois Univ., DeKalb, Ill., 1973, 122—139. *MR* **54**#2848 — SAP
76 Free products amalgamating unitary subsemigroups, *Bull. Austral. Math. Soc.* **15** (1976), 117—124. *MR* **54**#12936 — SAP

PULTR, A.
82 Subdirect irreducibility and congruences, *Category Theory. Applications to Algebra, Logic and Topology* (Proc. Conf. Gummersbach, 1981), pp. 256—262. Lecture Notes in Math., 962, Springer, Berlin—Heidelberg—New York. — RS

PULTR, A. and VINÁREK, J.
77 Productive classes and subdirect irreducibility, in particular for graphs, *Discrete Math.* **20** (1977/78), 159—176. *MR* **58**#5419 — RS

QUACKENBUSH, R. W.
71 Equational classes generated by finite algebras, *Algebra Universalis* **1** (1971/72), 265—266. *MR* **45**#5041 — RS
72 Free products of bounded distributive lattices, *Algebra Universalis* **2** (1972), 393—394. *MR* **47**#6574 — EI
74a Semi-simple equational classes with distributive congruence lattices, *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **17** (1974), 15—19. *MR* **52**#3012 — AP CEP EI
74b Structure theory for equational classes generated by quasi-primal algebras, *Trans. Amer. Math. Soc.* **187** (1974), 127—145. *MR* **48**#5961 — AP
76 Varieties of Steiner loops and Steiner quasigroups, *Canad. J. Math.* **28** (1976), 1187—1198. *MR* **54**#12946 — CEP RS EI

RADNEV, P.
76 Injective objects in the category of p-rings, *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **31** (1976), no. 5, 49—55 (in Russian). *MR* **55**#2999 — EI

RAGHAVAN, T. G. and REILLY, I. L.
79 On projective and injective objects in some topological categories, *Categorical Topology* (Proc. Internat. Conf., Free Univ. Berlin, Berlin, 1978), Lecture Notes in Math., Vol. 719, Springer, Berlin—Heidelberg—New York, 1979, 308—315. *MR* **81i**: 18004 — EI

RAMER, A.
65 Some problems on universal spaces, *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* **13** (1965), 291—294. *MR* **31**#6205 — ECS

RAPHAËL, R.
75 Injective rings, *Comm. Algebra* **1** (1974), 403—414. *MR* **50**#2247 — EI
76 No rings have injective effacements, *J. Pure Appl. Algebra* **8** (1976), 285—288. *MR* **53**#10843 — EIH

RAVEL, J.
67 Injectivité: Généralisations et applications, extensions essentielles dans un treillis de Johnson, *Publ. Dép. Math. (Lyon)* **4** (1967), fasc. 2, 1—73. *MR* **36**#5042 — EIH

REID, G. A.
70 Epimorphisms and surjectivity, *Invent. Math.* **9** (1969/70), 295—307. *MR* **41**#5450 — ES

REILLY, N. R.
73 Extensions of congruences and homomorphisms, *Proceedings of a Symposium on Inverse Semigroups and their Generalisations* (Northern Illinois Univ., DeKalb, Ill., 1973), Northern Illinois Univ., DeKalb, Ill., 1973, 140—166. *MR* **52**#5836 — CEP

RIBENBOIM, P.
67 On ordered modules, *J. Reine Angew. Math.* **225** (1967), 120—146. *MR* **34**#5877 — EI

RIBES, L.
71 On amalgamated products of profinite groups, *Math. Z.* **123** (1971), 357—364. *MR* **45**#389 AP

RINGEL, C. M.
71 Monofunctors as reflectors, *Trans. Amer. Math. Soc.* **161** (1971), 293—306. *MR* **45**#1989 AP EIH
72 The intersection property of amalgamations, *J. Pure Appl. Algebra* **2** (1972), 341—342. *MR* **48**#11244 IPA

ROBERT, E. DE
69 Projectifs et injectifs relatifs. Applications, *C. R. Acad. Sci. Paris Sér. A—B* **268** (1969), A361—A364. *MR* **39**#5664 EI

ROBY, N.
68a Sur les épimorphismes de la catégorie des anneaux, *C. R. Acad. Sci. Paris Sér. A—B* **266** (1968), A312—A313. *MR* **39**#197b ES
68b Diverses caractérisations des épimorphismes, *Séminaire d'algèbre commutative P. Samuel* (1967/68), *Les épimorphismes d'anneaux*, Secrétariat math., Paris, 1968. *MR* **39**#6867 ES

ROGGENKAMP, K. W.
73 Injective modules for group rings and Gorenstein orders, *J. Algebra* **24** (1973), 465—472. *MR* **47**#3453 EI

ROMANOWSKA, A. and FREESE, R. S.
77 Subdirectly irreducible modular double p-algebras, *Houston J. Math.* **3** (1977), 109—112. *MR* **55**#7875 RS

ROMANOWSKA, A. and TRACZYK, T.
82 Commutative BCK-algebras. Subdirectly irreducible algebras and varieties, *Math. Japon.* **27** (1982), 35—48. RS

ROSENTHAL, H. P.
70 On injective Banach spaces and the spaces $L^\infty(\mu)$ for finite measures μ, *Acta Math.* **124** (1970), 205—248. *MR* **41**#2370 EI

SABBAGH, G.
71 Embedding problems for modules and rings with application to model-companions, *J. Algebra* **18** (1971), 390—403. *MR* **43**#6259 AP

SAIN, I.
a Strong amalgamation and epimorphisms of cylindric algebras and Boolean algebras with operators (preprint). SAP

SANDERS, D.
75 The dominion and separable subalgebras of finitely generated algebras, *Proc. Amer. Math. Soc.* **48** (1975), 1—7. *MR* **51**#586 ES

SANKAPPANAVAR, H. P.
79 Principal congruences of pseudocomplemented semilattices and congruence extension property, *Proc. Amer. Math. Soc.* **73** (1979), 308—312. *MR* **80f**: 06003 CEP

SANKAR, P. B. K.
70 Injective envelopes of modules, *Progr. Math. (Allahabad)* **4** (1970), no. 2, 19—20. *MR* **46**#5306 EIH

SAPIR, M. V.
a Semigroup varieties possessing the amalgamation property, *Semigroups. Structure and Universal Algebraic Problems* (Proc. Conf. Szeged, 1981), Colloq. Math. Soc. J. Bolyai, Vol. 39, North-Holland, Amsterdam (to appear). SAP

ŠATALOVA, M. A.
70 The absence of o-injective partially ordered modules, *Mat. Zametki* **7** (1970), 693—696 (in Russian). *MR* **42**#165 EI

SCHEIBLICH, H. E.
76 On epics and dominions of bands, *Semigroup Forum* **13** (1976/77), 103—114. *MR* **55**#3136 ES
78 On coproducts of rectangular bands, *Rocky Mountain J. Math.* **8** (1978), 539—545. *MR* **57**#16433 SAP AP

SCHEIN, B. M.
66 Homomorphisms and subdirect decompositions of semigroups, *Pacific J. Math.* **17** (1966), 529—547. *MR* **33**#5768 RS
74 Injectives in certain classes of semigroups, *Semigroup Forum* **9** (1974/75), 159—171. *MR* **51**#13097 EI
76 Injective commutative semigroups, *Algebra Universalis* **6** (1976), 395—397. *MR* **55**#8219 EI
79 Injective monars over inverse semigroups, *Algebraic Theory of Semigroups* (Proc. Sixth Algebraic Conf., Szeged, 1976), Colloq. Math. Soc. J. Bolyai, Vol. 20, North-Holland, Amsterdam, 1979, 519—544. *MR* **80g**: 20082 EI
81 On two papers of B. M. Schein, *Semigroup Forum* **23** (1981), 87—88. *MR* **82j**: 20118 EI
SCHOEMAN, M. J.
76 Injective properties of torsion-complete mixed groups, *An. Şti. Univ. "Al. I. Cuza" Iaşi Secţ. Ia Mat. (N. S.)* **22** (1976), 11—13. *MR* **56**#12145 EI
SCHREIER, O.
27 Die Untergruppen der freien Gruppen, *Abh. Math. Sem. Univ. Hamburg* **5** (1927), 161—183. SAP
SCHRÖDER, J.
74 Epi und extremer Mono in T_{2a}, *Arch. Math. (Basel)* **25** (1974), 561—565. *MR* **52**#6648 ES
SCHUBERT, H.
72 *Categories,* Springer-Verlag, Berlin—Heidelberg—New York, 1972. *MR* **50**#2286 ECS EI EIH
SCHWAB, E.
79 Über Kongruenzen in regulären Kategorien, *Algebraische Modelle, Kategorien und Gruppoide, Studien zur Algebra und ihre Anwendungen,* **7**, Akademie-Verlag, Berlin, 1979, 45—50. *MR* **81g**: 18004 ES
SCOTT, D. S.
72 Continuous lattices, *Toposes, Algebraic Geometry and Logic* (Conf., Dalhousie Univ., Halifax, N. S., 1971), Lecture Notes in Math., Vol. 274, Springer, Berlin—Heidelberg—New York, 1972, 97—136. *MR* **53**#7879 ECS EI
ŠEĬNBERG, M. V.
71 Relatively injective modules over Banach algebras, *Vestnik Moskov. Univ. Ser. I Mat. Meh.* **26** (1971), no. 3, 53—58 (in Russian). *MR* **43**#6729 EI
SEMADENI, Z.
63a Free and direct objects, *Bull. Amer. Math. Soc.* **69** (1963), 63—66. *MR* **25**#5020 ECS EI
63b Projectivity, injectivity and duality, *Rozprawy Mat.* **35** (1963), 47 pp. *MR* **27**#4776 EI ECS
SETH, V. and TEWARI, K.
74 On injective near-ring modules, *Canad. Math. Bull.* **17** (1974), 137—141. *MR* **50**#4670 EI
SHOCK, R. C.
71 Injectivity, annihilators and orders, *J. Algebra* **19** (1971), 96—103. *MR* **43**#4861 EIH
SHOJI, K.
80 Right self-injective semigroups are absolutely closed, *Mem. Fac. Sci. Shimane Univ.* **14** (1980), 35—39. *MR* **82e**: 20082b IPA
SIKORSKI, R.
48 A theorem on extension of homomorphisms, *Ann. Soc. Polon. Math.* **21** (1948), 332—335. *MR* **11**—76 CEP
50 On an analogy between measures and homomorphisms, *Ann. Soc. Polon. Math.* **23** (1950), 1—20. *MR* **12**—583 CEP
SIKORSKI, R. and TRACZYK, T.
63 On free products of m-distributive Boolean algebras, *Colloq. Math.* **11** (1963), 13—16. *MR* **28**#2064 CEP
SILVER, L.
67 Noncommutative localizations and applications, *J. Algebra* **7** (1967), 44—76. *MR* **36**#205 EI

SIMMONS, H.
72 Existentially closed structures, *J. Symbolic Logic* **37** (1972), 293—310. *MR* **51**#12518 — EI AP
74 The use of injective-like structures in model theory, *Compositio Math.* **28** (1974), 113—142. *MR* **50**#4289 — AP EI

ŠIRJAEV, V. M.
77 Some properties of the category of inverse semigroups, *Izv. Vyss. Učebn. Zaved. Matematika* **1977**, no. 5, 125—136 (in Russian). *MR* **58**#16832 — ES

SKORNJAKOV, L. A.
69 The homological classification of monoids, *Sibirsk. Mat. Ž.* **10** (1969), 1139—1143 (in Russian). *MR* **40**#5764 — EI

SLAVÍK, V.
80 The amalgamation property of varieties determined by primitive lattices, *Comment. Math. Univ. Carolinae* **21** (1980), 473—478. *MR* **82b**: 06007 — AP
83 A note on the amalgamation property in lattice varieties, *Contributions to Lattice Theory* (Proc. Conf. Szeged, 1980), Colloq. Math. Soc. J. Bolyai, Vol. 33, North-Holland, Amsterdam, 1983, 723—736. — AP

SMITH THOMAS, B. V.
77 Categories of topological groups, *Quaestiones Math.* **2** (1977), 355—377. — AP ES

STEINBERG, S.
72 Lattice-ordered injective hulls, *Trans. Amer. Math. Soc.* **169** (1972), 365—388. *MR* **47**#1713 — EIH

STENSTRÖM, B.
75 *Rings of Quotients*, Springer, Berlin, 1975. — EI EIH

STEPHANI, I.
70 Injektive Operatorenideale über der Gesamtheit aller Banachräume und ihre topologische Erzeugung, *Studia Math.* **38** (1970), 105—124. *MR* **43**#6738 — EI

STORRER, H. H.
68a Sur les épimorphismes dans la catégorie des anneaux commutatifs, *C. R. Acad. Sci. Paris Sér. A—B* **266** (1968), A263—A265. *MR* **37**#5272 — ES
68b Epimorphismes d'anneaux et anneaux des fractions, *C. R. Acad. Sci. Paris Sér. A—B* **266** (1968), A322—A323. *MR* **37**#5273 — ES
68c Epimorphismen von kommutativen Ringen, *Comment Math. Helv.* **43** (1968), 378—401. *MR* **39**#4137 — ES
69 A note on quasi-Frobenius rings and ring epimorphisms, *Canad. Math. Bull.* **12** (1969), 287—292. *MR* **40**#4306 — ES
73 Epimorphic extensions of non-commutative rings, *Comment. Math. Helv.* **48** (1973), 72—86. *MR* **48**#342 — ES

STRALKA, A. R.
71 The congruence extension property for compact topological lattices, *Pacific J. Math.* **38** (1971), 795—802. *MR* **46**#3394 — CEP
72 Extending congruences on semigroups, *Trans. Amer. Math. Soc.* **166** (1972), 147—161. *MR* **45**#3627 — CEP
77 Congruence extension and amalgamation in $\mathscr{CL}$, *Semigroup Forum* **13** (1976/77), 355—375. *MR* **58**#10640 — CEP AP

SWAMINATHAN, V.
82 Injective and projective Boolean-like rings, *J. Austral. Math. Soc. Ser. A* **33** (1982), 40—49. — CEP EI ES

SYDOW, W.
81 Über die Kategorie der topologischen Vektorräume, Thesis, Hagen, 1981. — ECS EI

TANG, C. Y.
66 An existence theorem for generalized direct products with amalgamated subgroups, *Canad. J. Math.* **18** (1966), 75—82. *MR* **32**#4181 — AP SAP

TAYLOR, W.
71 Some constructions of compact algebras, *Ann. Math. Logic* **3** (1971), 395—435. *MR* **45**#47 — EIH
72 Residually small varieties, *Algebra Universalis* **2** (1972), 33—63. *MR* **47**#3278 — AP CEP RS ECS EI EIH

73 Products of absolute retracts, *Algebra Universalis* **3** (1973), 400—401. *MR* **50**#2031 EI

79 Subdirectly irreducible algebras in regular permutable varieties, *Proc. Amer. Math. Soc.* **75** (1979), 196—200. *MR* **80h**: 08010 RS

THOLEN, W.

81 Injective objects and cogenerating sets, *J. Algebra* **73** (1981), 139—155. RS ECS EI EIH

82a Amalgamations in categories, *Algebra Universalis* **14** (1982), 391—397. AP IPA

82b Birkhoff's Theorem for categories, *Categorical Aspects of Topology and Analysis* (Proc. Conf. Ottawa, 1980), pp. 351—357. Lecture Notes in Math., 915, Springer, Berlin—Heidelberg—New York, 1982. RS ECS EI EIH

TIWARY, A. K.

69 Injective hulls of semi-simple modules over regular rings, *Pacific J. Math.* **31** (1969), 247—255. *MR* **41**#6834 EIH

TONGE, A. M.

78 Translation invariance, compact semigroups and injective coalgebras, *Math. Proc. Cambridge Philos. Soc.* **83** (1978), 225—236. *MR* **56**#15822 EI

80 La presque-périodicité et les coalgèbres injectives, *Studia Math.* **67** (1980), 103—118. *MR* **81j**: 46075 EI

TRNKOVÁ, V.

65 Sum of categories with amalgamated subcategory, *Comment. Math. Univ. Carolinae* **6** (1965), 449—474. *MR* **32**#7622 AP

URQUHART, A.

79 Distributive lattices with a dual homomorphic operation, *Studia Logica* **38** (1979), 201—209. *MR* **80i**: 03071 RS

VIÑA ESCALAR, A.

71 *Extensiónes esenciales* [Essential extensions], Alxebra, 8, Departamento de Algebra y Fundamentos, Universidad de Santiago de Compostela, Santiago de Compostela, 1971 (in Spanish). *MR* **47**#1906 EI EIH

VINÁREK, J.

78 Remarks on subdirect representations in categories, *Comment. Math. Univ. Carolinae* **19** (1978), 63—70. *MR* **58**#826 ECS RS

82 On subdirect irreducibility and its variants, *Czechoslovak Math. J.* **32** (1982), 116—128. RS

VINCENT-SMITH, G. F.

67 The Hahn-Banach theorem for modules, *Proc. London Math. Soc.* (3) **17** (1967), 72—90. *MR* **35**#766 EI

VIPERA, M. C.

81 Alcune classi di epimorfizmi d'anelli, *Ann. Univ. Ferrara Sez. VII. Sci. Mat.* **27** (1981), 125—133. ES

VIŠNJAKOVA, N. I. and KLADOV, G. K.

74 The injectivity of modules over a generalized valuation ring, *Numerical Mathematics and Computer Technology,* no. 5, Akad. Nauk Ukrain. SSR Fiz.-Tehn. Inst. Nizkih Temperatur, Kharkov, 1974, 138—140 (in Russian). *MR* **56**#11982 EI

VISONHALER, C. and WICKLESS, W. J.

79 Injective hulls of torsion free Abelian groups as modules over their endomorphism rings, *J. Algebra* **58** (1979), 64—65. EIH

VOLKOV, M. V.

83 Varieties of associative rings in which amalgams can be embedded, *Mat. Zametki* **33** (1983), 3—13 (in Russian). SAP

WASSERMANN, S.

77 Injective W^*-algebras, *Math. Proc. Cambridge Philos. Soc.* **82** (1977), 39—47. *MR* **56**#6418 EI

WATANABE, T. and NOGUCHI, S.

77 The amalgamation of automata, *J. Comput. System Sci.* **15** (1977), 1—16. *MR* **56**#8239 SAP

WĘGLORZ, B.

66 Equationally compact algebras, I, *Fund. Math.* **59** (1966), 289—298. *MR* **35**#1462 EAR EI

WEIDENFELD, G.
70 Objets injectifs et catégories de fractions, Thèse présentée à la Faculté des Sciences de l'Université de Paris pour l'obtention du doctorat 3e cycle, Spécialité: mathématiques, *Esquisses mathématiques*, **3**, Exp. No. 1, Fac. Sci. Univ. Paris, Paris, 1970. *MR* **54**#7581 EI

WEINBERG, E. C.
77 Relative injectives, *Symposia Mathematica*, Vol. XXI (Convegno sulle Misure su Gruppi e su Spazi Vettoriali, Convegno sui Gruppi e Anelli Ordinati, INDAM, Rome, 1975), Academic Press, London, 1977, 555—564. *MR* **58**#16457 EI CEP

WEINERT, H. J.
80 *S*-sets and semigroups of quotients, *Semigroup Forum* **19** (1980), 1—78. *MR* **81d**: 20062 EI EIH

WERNER, H.
78 *Discriminator-Algebras. Algebrai crepresentation and model theoretic properties*, Studien zur Algebra und Ihre Anwendungen, **6**, Akademie-Verlag, Berlin, 1978. *MR* **80f**: 08009 AP CEP RS EI

WHEELER, W. H.
79 Amalgamation and elimination of quantifiers for theories of fields, *Proc. Amer. Math. Soc.* **77** (1979), 243—250. *MR* **80j**: 03049 AP

WIEGOLD, J.
59 Nilpotent products of groups with amalgamations, *Publ. Math. Debrecen* **6** (1959), 131—168. *MR* **21**#3478 SAP
61 Some remarks on generalised products of groups with amalgamations, *Math. Z.* **75** (1960/61), 57—78. *MR* **24**#A2611 SAP
62 Embedding group amalgams in wreath products, *Math. Z.* **80** (1962), 148—153. *MR* **26**#2488 SAP
65 Soluble embeddings of group amalgams, *Publ. Math. Debrecen* **12** (1965), 227—230. *MR* **33**#195 SAP

WOLFE, J. C.
74 Injective Banach spaces of type $C(T)$, *Israel J. Math.* **18** (1974), 133—140. *MR* **50**#5445 EI
78 Injective Banach spaces of continuous functions, *Trans. Amer. Math. Soc.* **235** (1978), 115—139. *MR* **57**#1098 EI

WOOD, C.
73 The model theory of differential fields of characteristic $p \neq 0$, *Proc. Amer. Math. Soc.* **40** (1973), 577—584. *MR* **48**#8227 AP

WYLER, O.
71 On the categories of general topology and topological algebra, *Arch. Math. (Basel)* **22** (1971), 7—17. *MR* **44**#4767 ES
77 Injective spaces and essential extensions in TOP, *General Topology Appl.* **7** (1977), 247—249. *MR* **56**#16559 EI EIH

YAQUB, F. M.
68 A theorem on the existence of the generalized free α-products of Boolean algebras, *Nieuw Arch. Wisk.* (3) **16** (1968), 179—183. *MR* **39**#112 AP
72 Free products of commutative rings with amalgamation, *Rend. Ist. Mat. Univ. Trieste* **4** (1972), 46—52. *MR* **48**#10935 SAP

YASUHARA, M.
74 The amalgamation property, the universal-homogeneous models, and the generic models, *Math. Scand.* **34** (1974), 5—36. *MR* **51**#7860 AP

ZAHAROV, V. K.
73 The functional representation of the injective envelope, and tests for the injectivity of certain modules, *Izv. Vyss. Učebn. Zaved. Matematika* **1973**, no. 9 (136), 27—30 (in Russian). *MR* **48**#6174 EIH EI

ZDRAVKOVSKA, S.
79 On injective and projective objects in pro-Abelian categories, *Glas. Mat.* **14** (1979), 223—226. EI

ZEITLER, H.
76 Modeltheoretic investigations on the amalgamation property, Thesis, Ruprecht-Karl-Univ., Heidelberg, 1976. AP SAP EI CEP

81 Die Amalgamierungseigenschaft und reine Ringe, *Arch. Math. Logik Grundlag.* **21** (1981), 83—100. AP

ZELMANOWITZ, J. M.

71 Injective hulls of torsion free modules, *Canad. J. Math.* **23** (1971), 1094—1101. *MR* **44**#6755 EIH

ZIMMERMANN, W.

69 Injektive Strukturen und *M*-injektive Objekte, Thesis, Ludwig-Maximilians-Univ., München, 1969. EI EIH

(Received February 4, 1982)

E. W. Kiss and L. Márki

MTA MATEMATIKAI KUTATÓ INTÉZETE
REÁLTANODA U. 13—15
H—1053 BUDAPEST
HUNGARY

P. Pröhle

HO SI MINH TANÁRKÉPZŐ FŐISKOLA
MATEMATIKAI TANSZÉK
TEJÚT U. 10—12
H—1214 BUDAPEST
HUNGARY

W. Tholen

FACHBEREICH MATHEMATIK
FERNUNIVERSITÄT HAGEN
FEDERAL REPUBLIC OF GERMANY

Current address:

DEPARTMENT OF MATHEMATICS
YORK UNIVERSITY
DOWNSVIEW, ONTARIO
M3J 1P3
CANADA