

MÉMOIRES DE LA S. M. F.

ZBIGNIEW SEMADENI

Relations between certain theories in functional analysis and general topology

Mémoires de la S. M. F., tome 31-32 (1972), p. 357-358

http://www.numdam.org/item?id=MSMF_1972__31-32__357_0

© Mémoires de la S. M. F., 1972, tous droits réservés.

L'accès aux archives de la revue « Mémoires de la S. M. F. » (<http://smf.emath.fr/Publications/Memoires/Presentation.html>) implique l'accord avec les conditions générales d'utilisation (<http://www.numdam.org/conditions>). Toute utilisation commerciale ou impression systématique est constitutive d'une infraction pénale. Toute copie ou impression de ce fichier doit contenir la présente mention de copyright.

NUMDAM

Article numérisé dans le cadre du programme
Numérisation de documents anciens mathématiques

<http://www.numdam.org/>

Colloque Anal. fonctionn.[1971, Bordeaux]
Bull. Soc. math. France,
Mémoire 31-32, 1972, p. 357-358.

RELATIONS BETWEEN CERTAIN THEORIES IN
FUNCTIONAL ANALYSIS AND GENERAL TOPOLOGY

by

Zbigniew SEMADENI

This survey of canonical functors acting between certain categories includes :

- a) duality between compact Saks spaces and Banach spaces,
- b) duality between compact convex sets and spaces of continuous affine functions,
- c) duality between compact spaces and spaces of continuous functions,
- d) duality between compact spaces with base points and spaces of continuous functions vanishing at base points,
- e) Stone's duality between 0-dimensional compact spaces and Boolean algebras,
- f) duality between compact ordered monotonically normal spaces and Bonsall semialgebras of type 1 .

In each case, we have 2 categories and 2 contravariant functors adjoint on the right and on the left. Thus, the above duality theories yield 12 categories and 12 contravariant functors ; the purpose of the talk was to describe covariant functors acting between those categories, their left (right) adjoints, and their preservation properties. In this setting we get a better insight into the mutual relations between the theories involved here.

The talk is essentially covered by the papers listed below.

BIBLIOGRAPHIE

- [1] BONSALL (F.F.). - Semi-algebras of continuous functions, Proc. London Math. Soc. 10 (1960), 122-140.
- [2] BUCHWALTER (H.). - Espaces de Banach et dualité, Publications du Département de Mathématiques Lyon 3, fasc. 2 (1966), 2-61.
- [3] SEMADENI (Z.). - Projectivity, injectivity and duality, Rozprawy Mat. 35 (1963), 1-47.
- [4] SEMADENI (Z.). - The Banach-Mazur functor and related functors, Prace Mat. 14 (1970), 173-182.

- [5] SEMADENI (Z.). - Banach spaces of continuous functions, Vol. I, Monografie Mat. Vol. 53, Warszawa 1971.
- [6] ZIDENBERG-Spirydonow (H.). - Thesis, Institute of Mathematics of the Polish Academy of Sciences, 1970.

Institute of Mathematics
Polish Academy of Sciences
Sniadeckich, 8
WARSAWA 1 (Pologne)
