$X < Y$ provided: given any element U of the uniform structure on X there is a homology equivalence, f: $X \to Y$, g: $Y \to X$, such that $g(f(x)) \in U(x)$ for all $x \in X$. This relation is an order relation on the class of compact spaces. This theorem is proved: if $X < Y$ and Y is a Lefschetz space, then so is X. The criterion is applied to give examples of non-HLC spaces which are Lefschetz spaces and, in particular, have the fixed point property. (Received March 9, 1954.)

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RESEARCH PROBLEMS

19. Walter Rudin: *Maximum modulus algebras.*

Let D be a domain bounded by a simple closed curve C, and let $K = D \cup C$. In Duke Math. J. vol. 20 (1953) pp. 449–458, the following theorem is proved: Let A be an algebra of complex-valued functions continuous on K and suppose (1) for every $f \in A$ there is a point $z_0 \in C$ such that $|f(z)| \leqq |f(z_0)|$ $(z \in K)$; (2) A contains a non-constant function which is analytic in D; (3) A contains a schlicht (that is, one-to-one) function. Then every $f \in A$ is analytic in D. Is the conclusion valid if (3) is omitted from the hypotheses? Is it possible to weaken (3), for instance by requiring that A separates points? (Received April 6, 1954.)

20. Walter Rudin: *Radial limits of analytic functions.*

If f is analytic in the interior U of the unit circle, and if there exists a set E of positive measure such that $f(re^{i\theta})$ is bounded for $0 \leqq r < 1$, $\theta \in E$, does $\lim_{r \to 1} f(re^{i\theta})$ necessarily exist for almost all $\theta \in E$? The same question may be asked about functions meromorphic in U. (Received April 6, 1954.)