In his 1877 *Theory of Algebraic Integers*, Dedekind described an integer domain that contains numbers that act like primes in some respects (e.g., no non-trivial divisors), yet fail to satisfy other properties that mathematicians since Euclid had come to expect of primes (e.g., divisibility of a product implies divisibility of a factor). This entirely new phenomenon prompted him to introduce ideals as a means to restore the standard properties of divisibility to such domains.

Dedekind’s formulation of this new conceptual framework for studying problems previously treated algorithmically and the associated increase in abstraction involved in this shift can be fruitfully described as transgressions within the history of mathematics. Here, the term “transgression” is used in its usual sense, as an act that “steps across” a law, a code of conduct, or some given bound.

In this talk, we consider both the mathematical content of Dedekind’s 1877 text and its use in an undergraduate mathematics course from the viewpoint of transgressive acts. Is the approach to teaching via primary sources that we will describe itself an instructional transgression? What new phenomena present themselves within the student learning experience as a result? Are these phenomena entirely new? (Received July 12, 2019)