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Lingua di pubblicazione Inglese Formato Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Chapter 1. Introduction -- Chapter 2. Hydrology mechanism of ganat -- Chapter 3. Locatingganat -- Chapter 4. Digging of shaft wells and ganat gallery -- Chapter 5. Barriers and limitations of ganat construction and rehabilitation -- Chapter 6. Tools and Equipments --Chapter 7. Qanat maintenance and preservation -- Chapter 8. Qanat related Structures. Sommario/riassunto This book offers a ready solution for those who wish to learn more about this fascinating part of our water history and makes accessible to

the wider world the traditional knowledge gained from building and maintaining ganats for more than 2,500 years. There is much more here than a summary of the nature and distribution of ganats, and a more extensive journey through the philosophy, methods, tools, and terminology of ganat design and digging than previously assembled. Where does one begin to dig to ensure that the ganat tunnel will flow with water? How are practical considerations of landscape factored into the design? How are water quality and discharge measured? How does excavation proceed through bedrock and unconsolidated soil and how is this knowledge of geology and pedology acquired? How are vertical wells and tunnels excavated to maintain proper air supply, light, and water flow? How does one deal with special problems like tunnel collapse, the accumulation of gasses and vapors, and the pooling of water during construction? How are tools and gauges designed. maintained, and used? How have ganats been incorporated into other structures like watermills, reservoirs, ice houses, and irrigation networks? And how are ganats cleaned, extended, maintained through the ages, and incorporated into modern water supplies? The great contribution of this work is the story it tells of the ingenuity and practical skills of the ganat masters who for centuries and generations have cut an uncountable number of tunnels through bedrock and alluvium using hand tools and homespun solutions to problems that would vex the most experienced university-trained engineers. .