

WELCOME TO A CHRONICLE OF MATHEMATICAL PEOPLE

**“Mathematics has this peculiarity, that it is not understood by non-mathematicians”
André Weil**



Author Robert A. Nowlan

There are two interpretations of Weil’s quote. It could mean that non-mathematicians do not understand how “to do” (i.e. use) mathematics in solving problems and proving things. It is more likely Weil meant that non-mathematicians do not understand what mathematics “is.” The latter is the greater shame. My career-long objective has been to assist others in finding a clearer and more mature understanding of the nature of mathematics and of the delight it bestows upon those who gladly labor in its fields. *A Chronicle of Mathematical People* is an effort to share the fascination of mathematics, as an intellectual and creative activity, as an important tool used in various other fields, and as an almost perfect means of communication among those who understand its language.

After leaving school, most people will never solve another algebraic equation, make a geometric proof or differentiate a function; but it is very likely that normally intelligent and successful individuals will use some aspect of mathematical reasoning in solving certain problems in their lives and careers, even if they don’t identify it as such. If they are unaware that mathematics is much more a way of thinking than a way of doing, it may be more the fault of their education, than of them. To have a clear grasp of the nature of any field, and especially mathematics, one must encounter and explore many questions of the type: who, what, when, where, why, and how. If mathematics education has a peculiar failing it is that all too often in an effort to address questions of “how,” the others are paid too little attention. A primary purpose of the *Chronicle* is to provide a non-rigorous

examination of many questions of the type who, what, when, where, why, and how as they pertain to certain “mathematical people” and their contributions. It is hope that such exposure will afford the reader a richer appreciation for the nature of mathematics, its many important contributions to the advancement of the store of human knowledge and understanding, as well as its seductive beauty and allure.

A Chronicle, when completed, will consist of hundreds of nearly independent articles, each the story of a particular mathematical person. Most often the person is a mathematician, but not always. Those who have made their mark in other specializations are also highlighted, but there will be some significant mathematical aspect to the story of their lives and achievements. The brief biopics are far from complete and are not intended to be scholarly investigations of the individuals and their works. Nor do the entries consist of a series of “And then I proved ...” type passages. While short, general descriptions of their work are included; the emphasis of the stories is on the subjects as personalities. Readers must look elsewhere for the details of discoveries, inventions and applications. Those individuals featured are complex individuals, with strengths, weaknesses, successes, failings, happiness, sorrows, and disappointments. They are generous, selfish, brave, cowardly, strong, weak, saints and sinners. In other words they are human – in some cases, all too human. Each entry concludes with a quotation, usually by the featured mathematical person, but if not, it is a pertinent comment on some aspect of the life or work of the featured person.

The *Chronicle* is intended for individuals curious to learn more about the fascinating field of mathematics and of those who made it the center of their lives. One does not have to be a mathematician to read expository books such as the *Chronicle*. However, mathematicians should

find some interesting new information about their colleagues throughout the centuries. The articles have been prepared with the needs of mathematics teachers in mind, no matter at what level they teach. They can serve as a source of information about mathematicians, mathematics, and its uses and applications, which can be used to enhance presentations of the subject to students. I have spent nearly fifty years working as a kind of mathematics missionary, hoping to spread the good news about mathematics, its role in the advancement of civilization, and the sheer delight of its intricacies. This led me to prepare a series of talks under the heading “Telling Their Story,” for students, teachers and community groups. The *Chronicle* is an extension of these talks.

The *Chronicle* is a storybook, offering interesting information about interesting people who happen to be mathematicians or those who make use of mathematics in other disciplines. Should some readers come across a passage in which the discussion of a mathematical idea or theory seems too esoteric for their taste, they are encouraged to skim the description, keeping faith that despite their lack of total comprehension, the mathematics is correct, and move onward to conclusions that highlight the significance of the material and its contribution to the big picture of the advancement of knowledge. Some readers may find they would like to learn more about certain featured mathematical people and their work. The *Chronicle's* Bibliography contains many excellent sources for further information.

The series of articles is designed so that readers may explore any entry without requiring access to material of others. This does not mean that there are no relations among entries. Certain noticeable patterns are found in the various entries. Certain questions are addressed again and again. Certain names crop up quite frequently. Certain characteristics of successful mathematicians and users of

mathematics are revealed. One thing that repeatedly is seen is that the truly gifted taught themselves more mathematics than they learned from others. Many did not fit successfully into ordinary classroom experiences. They were fascinated about the beautiful and logical way mathematical ideas meshed. They felt challenged to understand more of the true nature of mathematics so that they could contribute to its extension.

Some of the featured individuals are mathematical geniuses; a few made so by talented parents and other relatives who directed their early education. Others came from families that never showed any particular mathematical ability or special love of learning. Some were incredibly wealthy; others were miserably poor. A number lived long productive lives; others had the flame of their brilliance snuffed out at all too early ages. Some were the greatest mathematicians of all time; others were more ordinary individuals whose accomplishments were modest from a mathematical point of view but great from a human point of view. I have a rather wide-ranging sense of who are worthy of being identified as “mathematical people.” Those chosen for this collection are not proposed as “the greatest mathematicians who ever lived,” although many who are featured surely fit into that category. The men and women featured come from all races and creeds, from many different countries and from ancient times until the present. Some important mathematical names are missing from the series, and I accept total responsibility for the omissions, only promising readers that their stories may appear at a future date.

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