

ANNIVERSARY EDITION WITH FOUR NEW CHAPTERS

ESSAYS ON SOFTWARE ENGINEERING



THE MYTHICAL MAN-MONTH

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Preface to the 20th Anniversary Edition

To my surprise and delight, *The Mythical Man-Month* continues to be popular after 20 years. Over 250,000 copies are in print. People often ask which of the opinions and recommendations set forth in 1975 I still hold, and which have changed, and how. Whereas I have from time to time addressed that question in lectures, I have long wanted to essay it in writing.

Peter Gordon, now a Publishing Partner at Addison-Wesley, has been working with me patiently and helpfully since 1980. He proposed that we prepare an Anniversary Edition. We decided not to revise the original, but to reprint it untouched (except for trivial corrections) and to augment it with more current thoughts.

Chapter 16 reprints "No Silver Bullet: Essence and Accidents of Software Engineering," a 1986 IFIPS paper that grew out of my experience chairing a Defense Science Board study on military software. My coauthors of that study, and our executive secretary, Robert L. Patrick, were invaluable in bringing me back into touch with real-world large software projects. The paper was reprinted in 1987 in the *IEEE Computer* magazine, which gave it wide circulation.

"No Silver Bullet" proved provocative. It predicted that a decade would not see any programming technique that would by itself bring an order-of-magnitude improvement in software productivity. The decade has a year to run; my prediction seems safe. "NSB" has stimulated more and more spirited discussion

in the literature than has *The Mythical Man-Month*. Chapter 17, therefore, comments on some of the published critique and updates the opinions set forth in 1986.

In preparing my retrospective and update of *The Mythical Man-Month*, I was struck by how few of the propositions asserted in it have been critiqued, proven, or disproven by ongoing software engineering research and experience. It proved useful to me now to catalog those propositions in raw form, stripped of supporting arguments and data. In hopes that these bald statements will invite arguments and facts to prove, disprove, update, or refine those propositions, I have included this outline as Chapter 18.

Chapter 19 is the updating essay itself. The reader should be warned that the new opinions are not nearly so well informed by experience in the trenches as the original book was. I have been at work in a university, not industry, and on small-scale projects, not large ones. Since 1986, I have only taught software engineering, not done research in it at all. My research has rather been on virtual environments and their applications.

In preparing this retrospective, I have sought the current views of friends who are indeed at work in software engineering. For a wonderful willingness to share views, to comment thoughtfully on drafts, and to re-educate me, I am indebted to Barry Boehm, Ken Brooks, Dick Case, James Coggins, Tom DeMarco, Jim McCarthy, David Parnas, Earl Wheeler, and Edward Yourdon. Fay Ward has superbly handled the technical production of the new chapters.

I thank Gordon Bell, Bruce Buchanan, Rick Hayes-Roth, my colleagues on the Defense Science Board Task Force on Military Software, and, most especially, David Parnas for their insights and stimulating ideas for, and Rebekah Bierly for technical production of, the paper printed here as Chapter 16. Analyzing the software problem into the categories of *essence* and *accident* was inspired by Nancy Greenwood Brooks, who used such analysis in a paper on Suzuki violin pedagogy.

Addison-Wesley's house custom did not permit me to acknowledge in the preface to the 1975 edition the key roles played by their staff. Two persons' contributions should be especially cited: Norman Stanton, then Executive Editor, and Herbert Boes, then Art Director. Boes developed the elegant style, which one reviewer especially cited: "wide margins, [and] imaginative use of typeface and layout." More important, he also made the crucial recommendation that every chapter have an opening picture. (I had only the Tar Pit and Reims Cathedral at the time.) Finding the pictures occasioned an extra year's work for me, but I am eternally grateful for the counsel.

Soli Deo gloria—To God alone be glory.

Chapel Hill, N.C.
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