HOPL Shepherding

Richard P. Gabriel, Guy L. Steele Jr., Mark Priestley

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Shepherding is the process of advising and helping an author improve their manuscript before publication. In short, shepherding is like being an editor—in the classic sense of the word—for a manuscript. There are a number of tasks a HOPL shepherd must undertake:

- Ensure that the most important comments by reviewers are addressed
- Help the author make the manuscript be the best it can given the amount of time available
- Help the author organize the manuscript the best way given its nature
- Help the author use the best language and writing style for the manuscript
- Help the author make the manuscript as readable as possible for the expected range of readers

The extent to which a shepherd can help with all these depends on the knowledge and skill of the shepherd along with the knowledge, skill, and amenability of the author. In these guidelines we will use Knuth's "dangerous bend" symbol in the margin by places where what's being suggested might be at the far end of a shepherd's abilities—that is, places where some shepherds are unable to go—or where the advice is asking a lot of the shepherd, author, or the material.

HOPL Shepherding

HOPL shepherding is not like the usual SIGPLAN shepherding—for conferences such as POPL and PLDI, shepherding is the process of supervising an author addressing program committee (PC) comments; for a short-cycle review process, those comments are typically focussed and small(ish), but for HOPL, comments can be large and general. Moreover, some of the submissions are not even complete, so that shepherding includes advising / helping the author complete the draft, which in turn means that structural and genre changes are in bounds.

The HOPL shepherding period extends from February 15, 2019 until August 30, 2019; some of the HOPL papers are over 100 pages long. Both program chairs and the consulting historian will be available to help shepherds and serve as backups.

A Shepherd is an Editor

A shepherd brings fresh eyes to a manuscript, objective eyes. At one end of the spectrum, a shepherd helps with this:

...pruning, shaping, clarifying, tidying inconsistencies of tense and pronouns and location and tone, noticing all the sentences that could be read in two different ways, dividing awkward long sentences into short ones, putting the writer back on the main road if he has strayed down a side path, building bridges where the writer has lost the reader by not paying attention to his transitions, questioning matters of judgment and taste. A <shepherd's> hand must also be invisible. Whatever he adds in his own words shouldn't sound like his own words; they should sound like the writer's words.

—William Zinsser, *On Writing Well*

The other end is exemplified by Tay Hohoff, an editor at J. P. Lippincott. In the 1950s the writer Harper Lee was writing about her father, whom she loved and admired but who was a "gentleman bigot" in the South. Her first attempt at fictionalizing him was called "Go Set a Watchman" (which was eventually published in 2015). It has been described as "full of stilted exchanges between a benighted father and his more enlightened daughter. It wasn't only bad storytelling; it was the sort of story that editors didn't want to tell about the South." The manuscript was rejected everywhere except at J. P. Lippincott where Tay Hohoff

...decided to take a chance on Lee, but encouraged her to abandon the didactic, abrasive scenes between adults and focus on the manuscript's endearing childhood scenes. For two years, Hohoff helped Lee create "To Kill a Mockingbird": a coming-of-age story in which the protagonist and narrator, Scout—along with Jem and their summer sidekick, Dill—learns that she has misjudged the local outcast, Boo Radley, even as others in the town misjudge Tom Robinson.

—Casey Cep, *The Contested Legacy of Atticus Finch*

(If you don't know the importance of "To Kill a Mockingbird," you should look into it. That "Watchman" was written before "Mockingbird" was a bit of shock to the literary world.)

Not all shepherds work this hard on a manuscript, but HOPL shepherding can be extensive and intense.

When to Shepherd

In general, a manuscript is a candidate for shepherding if one of the following is the case:

- The number and extent of reviewers' must-do comments is large or broad; a shepherd then can help the author manage time and can direct the author's effort to the most important parts of the manuscript
- The manuscript is viewed as being publishable but needs revision to make it more understandable or effective, but the reviewers' comments do not provide enough information to guide the author
- A volunteer shepherd steps forward to push the manuscript from acceptable to outstanding

For HOPL, every manuscript that is not rejected at the Lisbon program committee meeting will be assigned a shepherd.

A Shepherd is a Passionate Advocate

In the best situations a shepherd will **eagerly** volunteer—because the shepherd believes in the manuscript and very much wants to see it develop to be wonderful. If no one volunteers to shepherd a manuscript, that can be a sign that the manuscript should not be accepted. The program chairs must become convinced that a reluctant shepherd can act assiduously for the manuscript.

The Author is the Author

The first rule of shepherding is that the manuscript belongs to the author. For HOPL, papers not rejected need to be revised—in most cases significantly, and in some cases the paper needs to be completed—and the final outcome depends on how well the author addresses the reviewers' and shepherd's concerns. But the manuscript turned in for final review is the one the author wants to turn in, not the one the shepherd wants.

Shepherding is Personal

The identities of the author and the shepherd will be known to both of them. This is because the role of the shepherd is as a guide to the author, and thus is like the relationship between a sensei and a novice. The word "sensei" means "one born before" or "one who comes before," and generally these terms refer to the relative maturity of the two in a particular area. In this case, the shepherd is using all their skill and knowledge to help the author along. (In other circumstances, the people who are the shepherd and author could easily be reversed.)

A shepherd can help because typically the shepherd has a less personal stake in the manuscript than the author, who might have favorite ways of saying things, specific hobby horses, specific axes to grind, etc. Thus the shepherd can bring a more objective—or at least less invested—view on the manuscript. Moreover, the shepherd is first and foremost a reader of the manuscript, and can be taken as a stand-in for a typical reader. For example, if a shepherd tells an author that some passage is not understandable, that should be accepted by the author as a fact ("no, you actually do understand it"—?!).

How It's Done

Here is the process.

Introduce Yourself

Shepherding requires a personal relationship. Send an email to the author introducing yourself, telling what you believe is worth knowing about you, and outlining the process. This is best done in a casual style to encourage trust. In particular, the shepherd should make it clear that the shepherd understands that the author is the author, and that the shepherd's role is to make constructive suggestions and to serve as a sounding board.

Ask, Don't Tell

A good general technique to use is to ask the author questions about the material instead of making pronouncements about it. For example, instead of saying that a particular section is confusing, ask whether it means this or it means that. The author then can see concretely where readers might find issues and how they might get off track. If an author tries to explain a section by referring to a "fact" that is not apparent to you, ask where that fact is explained in the text or what bibliographic reference to look at. Try to keep the focus of the discussion on the text and not on the author.

The essential idea is be (and to appear) to the author less like a critic of the manuscript and more like a helper. This makes accepting advice easier for the author. Moreover, when you shift your stance away from a critic's, the exchanges will be less defensive, and more ways to improve the manuscript are likely to be uncovered.

At Least Three Exchanges

In general, successful shepherding encounters take three exchanges, where a single exchange consists of the shepherd sending revision comments to the author and the author responding with a revised manuscript:

- introduction and first set of comments
- author responds with a new draft

- shepherd reviews the changes and provides a second set of comments
- author responds with a new draft

- shepherd reviews changes, provides final comments, and prepares report to reviewers
- author sends the final draft to the shepherd and PC; PC makes the final decision

The primary advantage a shepherd has over the author is distance: the shepherd sees the manuscript with fresher eyes and can therefore—theoretically—see problems more clearly and quickly. Sometimes after three exchanges, the shepherd can grow too close to the manuscript

to have that advantage—as well as too exhausted. (For HOPL IV, we might create sequential shepherd teams for some papers.)

In some cases there will be many more exchanges than three. One example is described in the section "Wave of Revision" further along in this document. Another is when the manuscript is not complete, needs extensive revision, or requires substantial reörganization.

What to Exchange

We have observed a variety of exchange techniques in shepherding:

- A text document with a list of page/line numbers with remarks
- A physically mailed, marked-up manuscript
- A scanned-in, marked-up manuscript sent, for example, as a PDF
- A marked-up PDF using Acrobat Pro or some other mark-up application
- A shared document directly marked up (à la Google Docs or Overleaf)
- A "source" document exchanged through email, Dropbox, WeTransfer, GitHub, etc. (this method and the shared-document method facilitate direct shepherd edits)

Because HOPL manuscripts are generally lengthy and the depth of shepherding help is generally profound, the standard page/line lists can be awkward. However, the method of exchange is, obviously, up to the shepherd and author.

But note that some of these methods of exchange hint at the nature of the shepherd / author relationship. While the list of page/line numbers with remarks speaks of a distant reviewer / candidate relationship—a relationship based on criticism—the source document exchange with shepherd-edits speaks of something more like a co-author or teacher / student relationship. The best shepherds aim toward the more up-close end of the spectrum. And in fact, we occasionally have seen authors invite their shepherds to be real co-authors.

If the shepherd does any direct work on the document, it is very important that a technology be used that makes it easy for the author to identify—and revert if necessary—changes made by the shepherd. The author must decide or agree on the appropriate method and technology for interacting in this manner.

Before the First Exchange

Here are the first two things a shepherd should do before the first exchange with the author.

1. Prioritize Reviewer Comments

An important source of suggestions for the author comes from the reviewers. Before shepherding begins, the reviewers will have made comments, and some of them might be labeled as required revisions or corrections. For less critical comments, the shepherd should judge how important each is and send the entire prioritized list to the author. If the shepherd has

suggestions for the author about how to address the reviewers' comments, these should be included in the first exchange.

Sometimes a shepherd simply helps an author address reviewer comments—by prioritizing, by suggesting approaches, by reviewing revisions aimed at addressing them, etc. If the reviewers and program chair need only this, then that's all the shepherd must do. This is typically the case for papers that are "almost there."

2. Re-review the Submission and Make Suggestions

The shepherd should re-read the entire manuscript, even if already a reviewer, with an eye toward structure, clarity, coverage, and genre; what the intended reader knows; how the material unfolds; matters of style, punctuation, and typesetting; and anything else that affects the quality of the manuscript. The shepherd's suggestions, along with a prioritized list of the reviewers' comments, should be in the first email to the author. The shepherd's introduction can be part of this as well.

The shepherd and author should establish a schedule for getting the three exchanges done before the final submission date.

Structure and Genre

The structure of a paper is the order of, nature of, and relationships among its sections; the genre of a paper is, for example, whether it is a scholarly history, an essay, a historical narrative, or any other characteristic that describes how the material is presented.

Suggestions regarding structure and genre are within bounds for HOPL shepherding. However, the larger and more comprehensive the suggested revisions, the more sure the shepherd should be of their potential effectiveness, and the earlier in the shepherding process they should be made. An important consideration is that a shepherd is striving to help an author make *the author's manuscript* better, not to make the manuscript into the shepherd's.

Because many of the HOPL submissions are still works in progress, their shepherds should be looking carefully at the structure and genre as well as the coverage and historical content of the manuscript to help the author complete then revise and polish that manuscript.
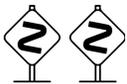
For one paper submitted to Onward! 2015, RPG was the shepherd and he recommended changing the genre of the paper from polemic to fictional interview. Although the paper was on its way to being rejected, the revised and reënvisioned paper was accepted and published. It is by David West, and its title is "The Cuban Software Revolution: 2016–2025." The paper is an essay, and it describes a different way of doing software development. The first draft was a sort-of personal history of how Dave West matured into a software development "guru" and the many mistakes he observed other people making and the nature of the forces behind the proper way to develop software. It had some facts wrong and otherwise presented itself as one man's

whine. RPG liked the ideas, but the program committee was skeptical. RPG wanted to keep the personal story part, but didn't see how to make it less whiny. One of the suggestions was a genre change—to make the essay into a fictional interview. Dave West picked up on the idea and suggested making it a story about how he moved to Cuba and started the great Cuban Software Revolution, which was possible only because Cuba had been so thoroughly isolated technologically from the rest of the world that it developed a strong "tinkerer" mentality. The setup is that a magazine writer is sent to Cuba to interview Dave West about all this—the essay is a fictional interview conducted in the future. This had nice advantages: it separated the context enough that readers were not tempted as much to think of why the ideas would not work in the US; in this form the personal history aspects became natural; the interviewer could also provide signposts about what the meat of the essay was about; it put in play several characters who could amplify the material, including Cuba itself as a character.

Dave West and RPG did three-plus exchanges over the course of two full months, and the essay was accepted and then performed at Onward! as a play.

Changes of genre this large are not recommended. We describe it only because we believe it is an example of an extreme point within the boundary of what can be done with shepherding. A more common genre-bending suggestion would be, for example, to change from a scholarly recitation of a committee-centric march to standardization to a narrative about how technical influences brought to light by committee members shifted the direction of that march.

Presentation and Style

The shepherd represents the reader. The shepherd should always question what the target reader knows at every point in the manuscript, what should be explained next, and how much the author should assume the reader knows in general. This does not mean that the shepherd should always aim to expand the pool of qualified readers by requiring changes to accommodate them (perhaps with tutorial material), but the shepherd should develop a good understanding of the sweet spot of readership and aim to make the manuscript work well for them. This can result in taking out tutorial material when the manuscript is centered on the hard frontier of a discipline.

A paper submitted to *The Art, Science, and Engineering of Programming* comes to mind. It was a fairly technical paper talking about the various ways a difficult concept in programming languages (monads) is taught. The paper was not about that concept but about how it is explained and taught—that is, the paper did not have a tutorial aspect. The program committee debated whether to include tutorial material to expand its readership, but finally decided to let the paper remain aimed toward readers who already understood the concept of monads but who would benefit from learning the strengths and weaknesses of different approaches to teaching it; the program committee asked the author to produce, at a later date, a companion tutorial paper explaining the concept.

In this case, the reviewers' debate on the idea of adding tutorial material, which was made visible to the author, was enough to provide shepherd-like advice to that author, who revised the paper beautifully to slightly expand the comfortable readership.

This takes us to the matter of good writing. We happen to believe in good writing. However, being a good writer and being able to teach it are not required to be a good shepherd. It is typically enough to be able to say when something was not understood or where the manuscript led the shepherd astray.

Advice to shepherds: if you are a good writer, then you can suggest style or good writing approaches to the author. And if there is sufficient rapport between you and the author, you can even suggest some rephrasings. However, this can be very dangerous and the author can easily think of you as presumptuous. Tread lightly here.
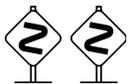
A difficult case is when the manuscript is, essentially, incomprehensible to the shepherd. One way to approach this is to—with the author's permission—provide a rewrite of a short, critical section. This might suggest to the author the level of knowledge a prospective reader might have, as well as point out where the author's natural writing is not working. This, however, can be very unpleasant territory, and if attempted, should be after the first exchange of comments.

In a related arena, it is appropriate to point out typos, ungrammatical sentences, spelling mistakes, punctuation issues, typesetting problems, etc. For example, RPG and GLS always point out that the Oxford (or serial) comma leads to less confusion in readers—because it is the conservative choice—but they always leave it up to the author whether to use it. Most authors like to see such problems noted, but not all revise them.

We suggest pointing out only recurring errors in the first round, and saving detailed comments on typos, etc., until the third or final round.

Strive to Retain the Author's Voice

To a significant degree, HOPL papers are aimed at future historians. HOPL papers can supply other sorts of information besides stories of the design, creation, and evolution of artifacts, including the nature of the designers, users, implementers, and programmers associated with those artifacts.

By seeing how an author explains things, we can better understand the created artifact.

Included is the voice of the author, which reveals itself in word choice, manner of speaking, punctuation, diction level, sentence complexity, musicality, and other aspects of the writing. We recommend shepherds try to retain these qualities if the manuscript is understandable and not riddled with grammatical, punctuation, and other egregious errors. If we made every language designer sound like every POPL or PLDI author, we would be losing information.

This can sometimes require shepherds to be lenient toward informal and non-scientific writing. Here are some examples.

In some circumstances it's okay to use the first person singular ("I"):

> *In 2003, I and most other members of the committee had high hopes for….*

This is better and more clear than many re-wordings. (Approximately half of the papers in the first HOPL conference include substantial passages written in the first person singular.)

In some circumstances it's okay to use the second person ("you"):

> *When you take the broadest notion of Lisp, programming in and with fundamental data structures, Clojure is both clearly a Lisp and seeking to extend the Lisp idea. In being built on abstractions and strongly focusing on functional programming, it is a novel Lisp.*

This sounds like the author. The use of "you" is also a well-worn practice in serious writing:

> *The more or less money you get for any commodity, in the London market, for example, the more or less labour it will at that time and place enable you to purchase or command.*
> —Adam Smith

> *Give me insight into to-day, and you may have the antique and future worlds.*
> —Ralph Waldo Emerson

> *The really delightful marriage must be that where your husband was a sort of father, and could teach you even Hebrew, if you wished it.* —George Eliot

Some of you might have noticed the very first sentence in this document:

> *Shepherding is the process of advising and helping an author improve their manuscript before publication.* —Gabriel, Steele, Priestley

This wording was deliberate. The use of the plural pronouns "they," "their," "them," and "themselves" to refer to an individual is considered by many to be ungrammatical or at least to be bowing to political correctness. Some readers are repulsed by this. Its use in English dates back to the early 1400s, and has been used by Shakespeare and others:

> *There's not a man I meet but doth salute me*
> *As if I were their well-acquainted friend,*
> *And every one doth call me by my name.* —William Shakespeare

> *A person can't help their birth.* —William Makepeace Thackeray

> *To do a person in means to kill them.* —George Bernard Shaw

> *When you love someone you do not love them all the time.* —Anne Morrow Lindbergh

Some sentences are not improved by avoiding "improper" plural pronouns such as the one used by Anne Morrow Lindbergh above. Consider the author's voice—including the beauty of sentences—when commenting on informal prose.

Moreover, there is more to word choice than laying out simple propositions in the most straightforward way. Sean Lennon (the singer/songwriter son of John Lennon and Yoko Ono) wrote the following in the *New York Post* in 2005 while trying to find a girlfriend:

> *Any girl who is interested must simply be born female and between the ages of 18 and 45. They must have an IQ above 130 and they must be honest.*

If there were ever a pair of sentences where the gender of reference is clear, it's these. So, why "they" instead of "she"? The use of "they" is a reminder that the pronoun is not referring to any one specific person. If it were "she," that would hint that the writer intends to refer to a single, known person. "Any girl" is a quantifier that ranges over a set. The numbers don't match, but the sentences are clear and the implication of being unknown is made. (Keep in mind that the pronoun systems of most spoken languages do not handle relationships between specific individuals and members of aggregates anywhere near as cleanly and precisely as *map* and *reduce* and lambda expressions can!)

One last one:

> *Now leaden slumber with life's strength doth fight;*
> *And every one to rest themselves betake,*
> *Save thieves, and cares, and troubled minds, that wake.* —William Shakespeare

It's perilous to second-guess the bard, / but we will humbly venture this advice: / "themselves" is better matched with "all" than "one," / or "each" or "every"—do you agree?

Even though we don't recommend *insisting* on corrections to the author's natural voice when the wording jars, we do recommend pointing out those places and explaining why some readers might have difficulty with them. ("Did you really mean 'themselves'? Is there some clearer way to say this?")

Wave of Revision

Sometimes a thorough revision or rewrite is needed—for example, when the manuscript is aimed at the wrong readership or level of knowledge; or when the genre is being changed. In these cases the author might need to move forward incrementally with shepherd reviews at a smaller scale. In these cases there can be shorter, more frequent interactions in which the author revises just few pages—perhaps just one section's worth—and sends them (as part of the whole manuscript) to the shepherd. Sometimes when operating in this mode, there can be several short exchanges per week. This can make sense when the amount of new material to review on each exchange is just some paragraphs or a few pages. This mode can be thought of as a sort of "pair writing."

We don't expect every HOPL shepherd to engage in such fine-grained shepherding, but we mention it because it can happen, and it can be a good idea. This is another way that HOPL is not a typical SIGPLAN conference.

Content

A shepherd is likely to be expert in the subject matter of the manuscript. It's permissible for the shepherd to remark on the content of the manuscript, but not to insist that specific changes be made. Feel free, however, to make persuasive arguments if warranted. A good approach is to ask questions about the material so the author can see where readers might be confused or where the author's point of departure is too narrow.

Diminishing Suggestions

When things are going well, the manuscript will be converging after the second exchange is finished. This means that the final exchange is cleaning up. If at first the shepherd is like a full-blown editor, the shepherd in the third exchange will become mostly a copy editor. However, it's possible that more than three exchanges will be needed, and possibly those additional ones can be handled or assisted by the program co-chairs or a second ("tag team") shepherd.

Final Report

The last chore for the shepherd is a hard one: the final report. This is a summary to the program committee of how shepherding went. This report should include the following:

- How each of the reviewers' comments were handled; not all need to be addressed in the revision, but it is important that each comment be considered and, if not acted on, an explanation provided. How much to say is up to the shepherd.
- What major revisions were made and why; how many exchanges were done; in what order were things addressed.
- How receptive the author was to suggestions; in principle this is not important information for the program committee, but some PCs do find it useful. Did the author

care about the readers, and is the final manuscript the result of good effort or grudging compliance?
- A recommendation regarding acceptance. HOPL shepherds take part in the ultimate decision, and the opinion of the shepherd is of special, critical importance. However, the shepherd might have developed a bond with the author and the material—may in fact feel like a co-author—and it is the job of the rest of program committee to take this into account. The program committee makes the final decision, not the shepherd.

Epilogue

HOPL is different from many computer-science conferences: the organizers of HOPL hope to collect as much important historical material as possible, and so the attitude of the program committee must be to help improve submissions and accept every paper that provides useful / usable material. But the better the paper, the more useful it will be. That's why we require heavyweight shepherding.

Writing isn't easy, and sometimes we don't take it as seriously as we could as scientists and engineers. One way to change this is to take shepherding seriously. When we help other authors we also help ourselves by being able to see what it is we notice about other writers' writing. Maybe we can help us notice more about our own writing.