

The Authorship of the Jwāngdǔ

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There is a way to answer the recurring question, In how many ways can x items be dispersed in a set containing y items? That technique has utility in the text sciences. I here illustrate the utility without expounding the technique.¹

Problem. According to the Hàn Palace Library Catalogue (HZ 30), the Jwāngdǔ once had 52 chapters. No Warring States or Hàn text makes distinctions among the 52. The abridged edition of Gwō Syàng (c0280), our present text, contains 33 chapters:²

- Inner Chapters (內篇), JZ 1-7
- Outer Chapters (外篇), JZ 8-22
- Miscellaneous Chapters (雜篇), JZ 23-33

In 1994 there appeared *Classifying the Zhuangzi Chapters*, by Liu Xiaogan. On p1-2, Liu states four theories of Jwāngdǔ authorship. They can be summarized this way:

- Jwāngdǔ wrote JZ 1-7, all other chapters are later (Wáng Fū-jī, 1619-1692)
- Jwāngdǔ wrote JZ 8-33, all other chapters are later (Rèn Jī-yw, 1983)
- Jwāngdǔ wrote JZ 1-2, other Inner chapters are jumbled (Fǎng Yōu-lán, 1965)
- Jwāngdǔ wrote the entire work (Lù Chīn, 1983)

Liu adds, “Admitting the premise that *Zhuangzi*, the book, is related to Zhuangzi, the person, the above four positions are the only possible ones concerning his works” (p2). Is this statement correct? Or to put the question more generally, how many Jwāngdǔ authorship theories *are* there? We may consider the possibilities step by step.

One-Chapter Authorship Theories

If, as Liu reports, it is possible for Jwāngdǔ to have written only JZ 1-2, then there should be nothing to prevent his having written only JZ 1, and if so, then he might have written any *other* single chapter. There are 33 extant chapters, any one of which Jwāngdǔ might have written, leading to exactly 33 one-chapter authorship theories.

Two-Chapter Authorship Theories

No less obviously, if Jwāngdǔ wrote JZ 1 and 2, then nothing prevents his having written JZ 1 and 3, or JZ 1 and 4, or JZ 1 plus *any* of the remaining 32 single chapters. This leads to 32 two-chapter authorship theories *in which JZ 1 is one of the chapters*. Very good, but this does not yet exhaust the two-chapter possibilities.

¹The technical name of the technique is “permutations.”

²For details, see Brooks **Jwāngdǔ Editions**.

We next consider two-chapter authorship theories in which *JZ 2* is the constant. The first of these will ascribe *JZ 2* and 3 to Jwāngdǔ, then *JZ 2* and 4, *JZ 2* and 5, and so on, to the theory that Jwāngdǔ wrote *JZ 2* and 33. There are 31 such theories in all. Then come two-chapter theories starting with *JZ 3* and 33 (which number 30), and with *JZ 4* plus 33 (29 theories). The number of two-chapter theories is systematic: 32 plus 31 plus 30 plus . . . Finally, Jwāngdǔ may have written *JZ 32* and 33 (1 theory). The number of two-chapter authorship theories is thus $32 + 31 + 30 + \dots + 2 + 1$. With or without a computational shortcut,³ these numbers sum to 528.

Further Authorship Theories

Nor is there a reason to think that Jwāngdǔ could not have written *JZ 1, 2, and 3*. But if that is possible, then so is *JZ 1, 2 and 4*, or *JZ 1, 2 and 5*, or any of the 31 theories which have *JZ 1* and 2 as constant members. Similarly, there will be 30 theories based on *JZ 1* and 3 plus (as the variable member) *JZ 4*, or 5, or 6, down to *JZ 33*; of theories on this model, there are 29. The last of the three-chapter authorship theories which includes *JZ 1* will ascribe to Jwāngdǔ *JZ 1, 32, and 33*; there is 1 such theory. But it is not necessary that *JZ 1* should be included (in fact, *JZ 1* is quite different in tone, even from the other “Inner” chapters), so we must also consider three-chapter authorship theories *excluding JZ 1*, beginning with *JZ 2, 3, and 4 . . .*

Later, we reach seven-chapter authorship theories (of which the *JZ 1-7* theory is only the first), eleven-chapter authorship theories (of which the *JZ 23-33* theory is the last), and fifteen-chapter authorship theories (to which the *JZ 8-22* theory belongs). The bad news is that at each step, the number of theories increases. The good news is that, beyond this point, that number decreases. At last we reach the thirty-two-chapter authorship theories. It is easy to see that there are 33 of these, since each omits only one of the 33 chapters as *not* by Jwāngdǔ. Note the symmetry with the one-chapter authorship theories. And finally, as for the theory that Jwāngdǔ wrote all 33 chapters, there can obviously be only one such theory.

Solution. The total number of authorship theories works out to be 8,589,934,591. But wait – is it not also possible that Jwāngdǔ wrote no Jwāngdǔ chapter whatsoever? If so, we must add 1 to our total, making the final count 8,589,934,592.

It would thus appear that the opinion quoted above has slightly underestimated the number of possible Jwāngdǔ authorship theories. No doubt a mere slip of the pen.

Works Cited

E Bruce Brooks. Jwāngdǔ Editions. WSP v2 (2018) 141–143
Liu Xiaogan. Classifying the Zhuangzi Chapters. Michigan 1994

³Combine the outside pair, $1 + 32$, then the pair inside them, $2 + 31$, and so on; the center pair is $16 + 17$. There are 16 such pairs. Since each pair sums to 33, the total is $16 \times 33 = 528$. Gauss spontaneously discovered this computational shortcut at the age of ten; the rest of us manage as best we can. The entire Jwāngdǔ authorship problem here discussed at painful length can thus be solved in exactly 18 seconds, if one knows how.