COMPASS & TAPE

Volume 6 Number 3 Winter 1988-89

THE ABYSS OF PROVATINA

A Schematic Perspective

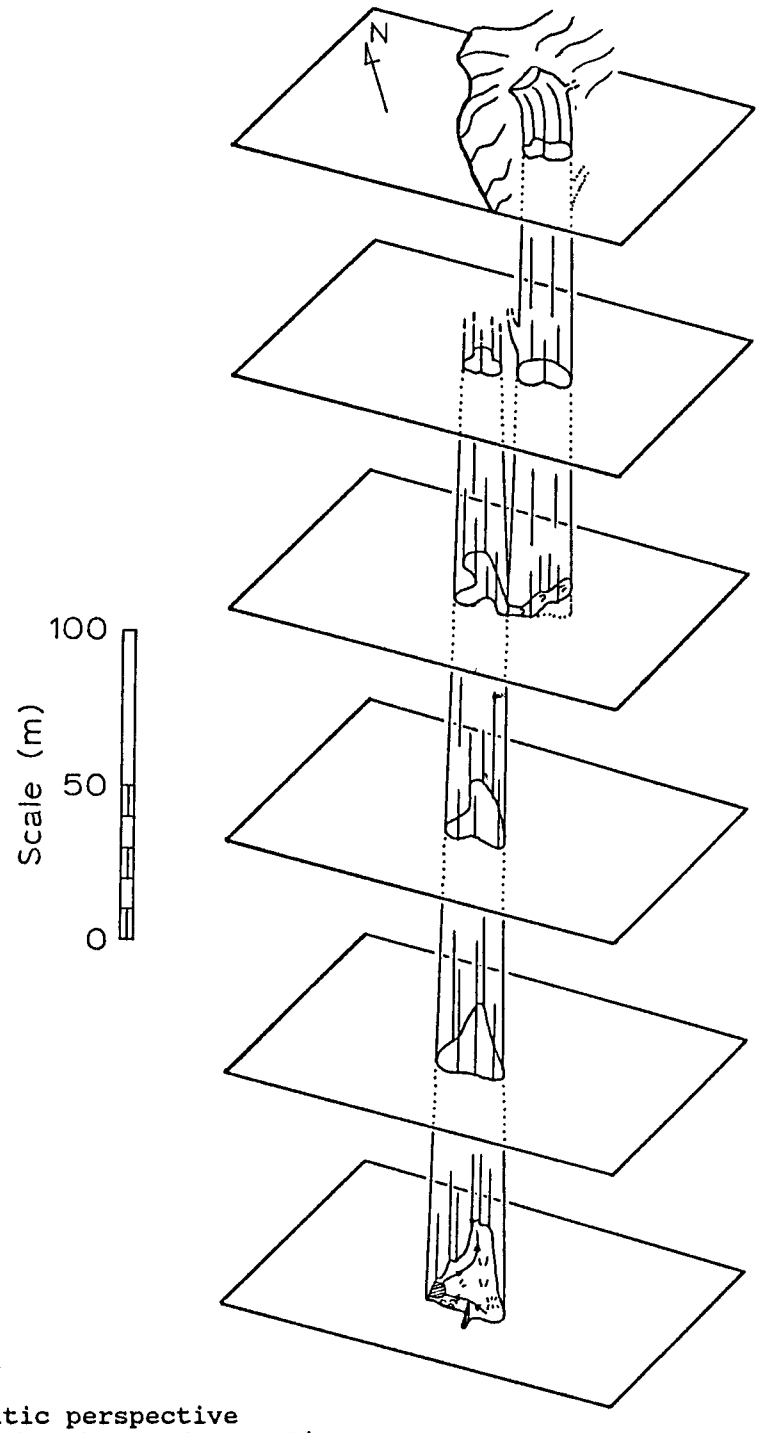

Figure 5

A schematic perspective view of The Abyss of Provatina illustrating the morphology of the cave.

F. L. Wefer

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Survey and Cartography Section - 1988/1989

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Cover: Provatina - an unusual map of an unusual cave. Figure 5 of the Provatina article by Fred Wefer.

THE PLUMBING OF PROVATINA

by

Fred L. Wefer

INTRODUCTION

One of the highlights of the 1977 U.S. Speleological Expedition to the Astraka Plateau in the Pindus Mountains of Greece was the successful exploration and mapping of The Abyss of Provatina. This paper describes that phase of the 1977 U.S. expedition and presents the results.

The reader will be quick to notice that it is now more than a decade since the expedition took place. Nevertheless there is still some useful information to be gained from the experience. The maps of Provatina we produced are somewhat unusual. And while the technique used to measure the lengths of the two drops is accurate and easy to perform, it has apparently seldom been used. The material of this report was included in the expedition's official report to the NSS (Wefer, 1978), but it has not previously appeared in the open literature. I have updated it slightly to incorporate some more recent information.

It is worthwhile to briefly review the activities involved in surveying the cave so that the reader has an idea of the effort involved in using the depth measurement techniques employed. We therefore begin with A BRIEF CHRONOLOGY of the surveying. This is followed by some COMMENTS AND OBSERVATIONS. The DEPTH DETERMINATION TECHNIQUES used are described next, followed by the DEPTH DETERMINATION RESULTS. Plan and profile representations of the cave are presented in a section called THE MAP. A comparison is made between the map produced by the U.S. expedition and PREVIOUS MAPS of the cave. A section called THE MORPHOLOGY discusses the morphology of the cave. The final section presents the REFERENCES cited.

A BRIEF CHRONOLOGY

Activities of the expedition directly related to the survey of Provatina began on 19 August 1977. While rigging the entrance pitch it was discovered that some of the bolting gear which would be needed on The Spider had been left in the village of Micro-Papigkon. Also, in an over zealous attempt to minimize the weight to be packed up to the Astraka Plateau, the altimeter and some food items had gotten left behind. Two people went back down to Micro-Papigkon to fetch the oddments. The remainder of

the group did some surface reconnaissance and hauled water from the spring to the camp near Provatina. A descent was made to The Spider to have a look at snow conditions. Everyone was back in camp by dark.

On the morning of 20 August 1977 we worked out the procedure for rigging the pitches so that the drops could be measured using a technique called "DW1" (details are given below). Then the rigging team, consisting of Louise Hose and Wil Howie, descended to The Spider, rigged the bottom pitch, and continued to The Bottom. Their round trip required approximately four hours. After the rigging team were up and had had a chance to rest, the length of the top pitch was measured via DW1. Then the rope was re-lowered and the second team, consisting of Jill Dorman and Jim Smith, descended the cave. Their task was to make a photographic record of The Spider and The Bottom. Their round trip also required four hours. As it was late when they got back to the surface, the third descent team opted to wait until the next morning.

Sunday morning 21 August 1977 the survey team, consisting of Nevin W. Davis and Fred L. Wefer, descended the cave. The temperature and altimeter altitude were measured at a number of locations during the descent. Also a Brunton compass and tape survey was made. The Bottom survey was an eight segment loop starting at the rope and proceeding around the wall in a clockwise direction. The perimeter of the loop was 113.0 m (370.7 ft); the ratio of error was 3.05 %. It was not, therefore, a loop of high precision; although it was certainly adequate for our purposes. At the lowest point of The Bottom a crawlway had developed in the cobblestone which made up the floor. One could see perhaps 10 m (30 ft) down this crawlway to a point approximately 4 m (13 ft) below its entrance. Gently kicking at the ceiling released chunks of material, hence the crawlway was considered too unstable to be entered.

After the bottom rope was prepared for DW1, the team ascended to survey The Spider. The snow was so hard near the top of the 45 degree angled slope that it was impossible to kick steps, hence some of The Spider was inaccessible, and some of the distance data had to be estimated. None of the estimated distances were involved in the depth determination. Finally, the rope for the bottom pitch was tied onto the rope for the top pitch, and the survey team ascended to the surface. The length of the bottom pitch was measured the next day during the derigging operation.

COMMENTS AND OBSERVATIONS

The business of putting six cavers on The Bottom and returning them to the surface went quite smoothly. There was a knot to pass at approximately -30 m (-100 ft) in the top pitch, but this caused no undue problems. Each team made the ascents prusiking

in tandem. Because of the relatively low snow accumulation on The Spider, the bottom pitch contained only a dribble of melt-water. Had this ice water been more than a dribble, it would have been something with which to contend in a wet suit. As it was, I found that multiple layers of wool clothing were adequate, even in the chill (38 F = 3.3 C) of The Bottom.

An interesting atmospheric effect was noticed just below The Spider. There was a noticeable draft of cold air descending along the wall next to the rope in the bottom pitch. This air current results from the air on The Spider being cooled by the snow. The colder denser air then slides down the snow slope, goes over the lip, and falls to the bottom of the bottom pitch. The measured air temperatures at The Bottom and on The Spider were identical, hence one descends in the bottom pitch through a column of air which is nearly isothermal. On The Bottom, which contained no snow in August 1977, the air must be warmed by the walls and floor of the pit. This must, in turn, create a counter-current of rising air, although we did not detect its presence during our survey. There was no air motion in the cobblestone crawlway.

DEPTH DETERMINATION TECHNIQUES

Our objectives in descending Provatina included determining the lengths of the two rope pitches and the total depth of the cave. Techniques for measuring depth have been considered in quite some detail by Wefer (1970a). We used two different techniques for our measurements, a Thommen Altimeter with 20 ft graduations and a technique which Wefer (1970a) called "DW1". Measuring pitches with an altimeter is so straightforward as to require no explanation. Note, however, that Ganter (1987) has recently pointed out the unreliability of altimeters in determining elevations in caves, a point of view which our results support.

To understand how DW1 works, consider a rope rigged in a pit so that the end just touches the bottom. One may envision static weights attached along the rope if one wishes, so long as all such weights are entirely supported by the rope. It is further assumed that the rope has been in this condition for a time sufficient (>1 hour) for the effects of creep to have ceased (Wefer, 1970b).

If this rope is marked at the top and bottom of the pitch, pulled out of the pit, laid horizontally on the ground, and measured with a surveying tape, the distance between the marks will be found to be less than the length of the pitch. The reason is that while the rope was hanging in the pit it was stretched by the weights attached along its length, e.g., mud, water, and by its own weight.

When the rope is horizontal on the ground these tensions no longer exist, hence the rope shrinks. Of course, if the elastic properties of the rope and the distribution of weights along the rope are both known, corrections can be made for the effect. The method DW1 takes advantage of the fact that if the rope were measured under exactly the same conditions of tension as it was in when it was hanging in the pit (as described above) then no errors would result from shrinkage and no corrections would be necessary.

DW1 works like this. A short rope (a long pigtail) is rigged in the pit next to the main rope. One caver goes down this short rope with one end of a measuring tape, a roll of masking tape, a pencil, and some paper. The rope is marked at an exact point at the lip of the pit and at some fixed distance "L" below the lip, by wrapping masking tape tightly around the rope and placing a horizontal pencil line on the masking tape. It is best to pick a standard distance for "L" and use it throughout. Now the rope is slowly pulled up until the lower pencil mark is just at the lip of the pit. If the rope was rigged so that the end just touched the bottom of the pit at the start of the process, then the portion of the rope which is still hanging in the pit is experiencing the same tensions as it was at the start of the process. Hence its length will not have changed.

Another piece of masking tape is wrapped around the rope a distance "L" below the lip, and again the rope is raised a distance "L". The process is repeated until a length "Z" which is less than "L" remains hanging in the pit. This length "Z" is measured by the caver on his way up the short rope going out of the cave. The caver on the short rope and someone on the surface keep independent tallys of the number "N" of lengths "L" which have been marked off. An additional check is available by counting the pieces of masking tape as they are later removed when coiling the rope. The length of the pitch is simply:

$$D = N * L + Z$$

where: D = total length of the pitch (m),
L = fixed measurement interval (m),
N = number of whole measurement intervals (dimensionless),
Z = remainder after N measurement intervals (m).

And no corrections are necessary. The procedure, illustrated in Figure 1, is relatively simple to execute, although it must be admitted that there is something quite disconcerting about dangling in a 150 m pit on a rope which is less than 30 m long.

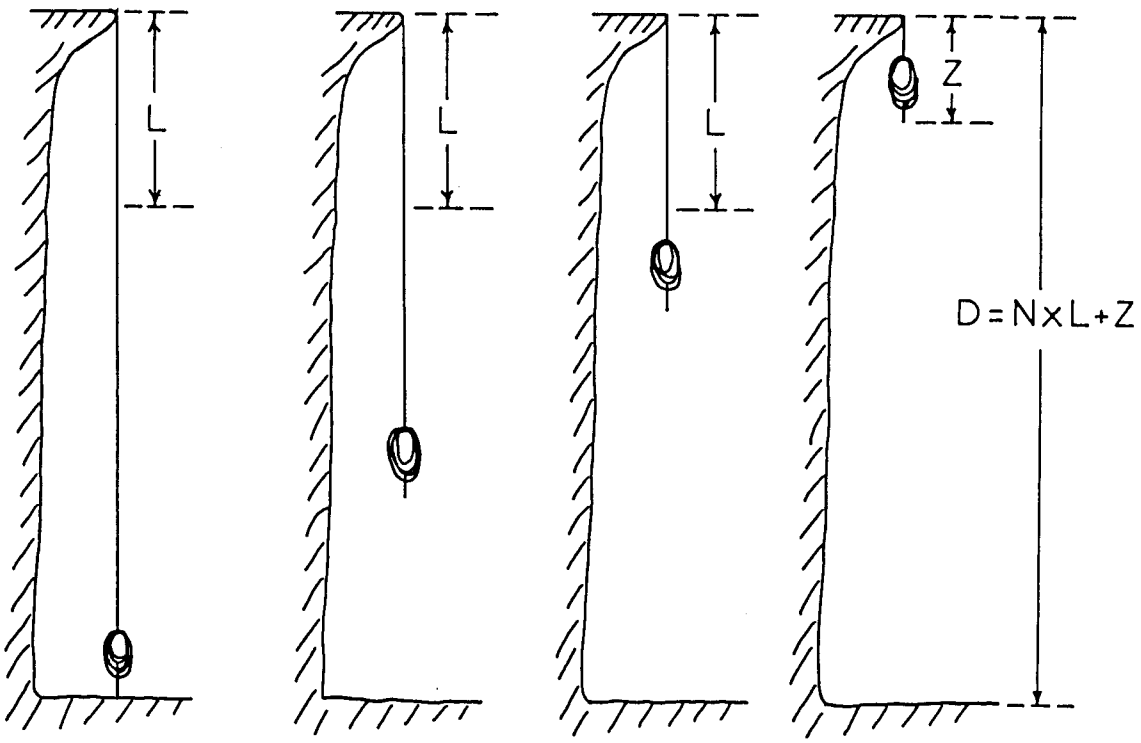

Figure 1 The method of measuring pitch lengths called "DW1" is illustrated. The rope is rigged so that the end just touches the bottom. Any excess rope must be coiled and hung so that it does not touch the bottom. Then while the rope is being pulled out, it is measured off in segments of length L. No corrections for the stretch of the rope are necessary.

DEPTH DETERMINATION RESULTS

The six locations in the cave most directly involved in the depth determination are shown in the schematic profile of Figure 2 below. Point A is the lip of the top pitch. Point B is the landing point on The Spider. Point C is the lip of the bottom pitch. Point D is the landing point at The Bottom. Point E is the station of the Brunton compass and tape loop survey of The Bottom at the lowest point of The Bottom. Point F is the lowest point visible down the cobblestone crawlway, estimated to be 4.3 m (14 ft) below point E.

The landing point on The Spider, the location of the lip of the bottom pitch, and the location of the landing point on The Bottom will, of course, depend on such things as where the ropes are rigged and how much snow has accumulated on The Spider and The

Bottom. Points A and E are not affected by such conditions and may be taken as defining the total vertical extent of the cave. It is uncertain that the cobblestone crawlway is a permanent feature of the cave. Should it turn out to be, it will add approximately 4.3 m to the total depth, but it will not effect the lengths of the two pitches.

Results of the depth determination are shown in Table I below. Notice that the depth derived from the altimeter measurements is 16.6 m greater than that given by the combination of DW1 and the Brunton compass and tape survey. It will be further noted that all of the discrepancy resides in the top pitch (point A to point B). I suggest the discrepancy is a result of the depressed temperature on The Spider due to the snow. This causes the air there to be more dense than normal for its elevation. The resulting anomalously high pressure mimics a lower elevation, yielding a larger pitch length.

The value adopted here for the total vertical extent of The Abyss of Provatina is 388.8 m (1276 ft). The mean error is estimated to be less than 2 m (6 ft).

POINT	VERTICAL DISTANCE BY "DW1" (meters)	POINT	VERTICAL DISTANCE BY ALTIMETER (meters)	TEMP
A		A		17.5 C
	157.2		173.7	
B		B		3.3 C
	8.3			
C			225.6	
	214.7			
D		D		3.3 C
	8.6		6.1	
E		E		3.3 C
	4.3			
F				
A		A		17.5 C
	388.8		405.4	
E		E		3.3 C

Table I. Results of the depth determination for Provatina. Temperatures were measured in Fahrenheit, then converted to Celsius.

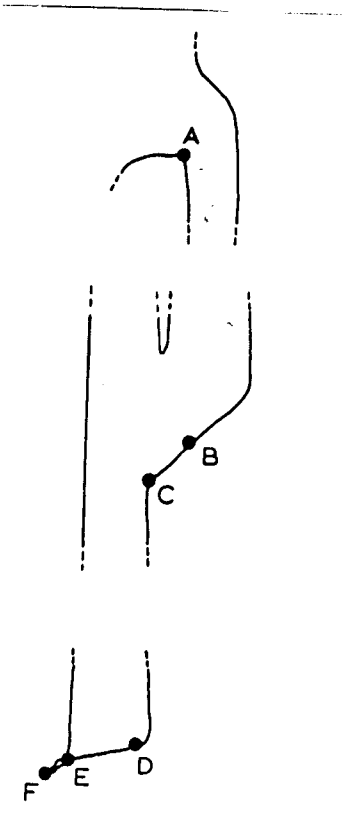

Figure 2 Schematic profile of Provatina showing the locations of the six points involved in the depth determination of Table I.

THE MAP

The map of The Abyss of Provatina produced by the 1977 U.S. expedition is shown in Figure 3. It contains two composite plan views and a composite profile view. Please note that the profile through CC' on The Bottom is nearly at a right angle to profile BB' through The Spider. The directions of the plane of the paper in the profile view are shown on the plan views.

PREVIOUS MAPS

Figure 4 shows four maps of The Spider from previous reports. These have been redrafted to the scale shown at the upper left. The profile of Pollack (1973) also was reversed right to left so as to have the same orientation as the others. The only other change was to use the same symbol for snow on each map. The depth of -165.5 m in Figure 4 was given on the original maps as -177 m. Measurements made by the 1977 U.S. expedition indicate that the depth of the horizontal dashed line is -165.5 m.

Note that Pollack (1973), Eyre (1968), and Sombardier and Poggia (1977) agree that there are two distinct pitches. The latter two references even show where their ropes/ladders landed. And then there is Courbon (1972). It would, indeed, be nice if Provatina were a single pitch with a narrowing at The Spider, as Courbon's two profiles indicate; however, the cave is simply not that way.

The maps we publish have an amazing circulation among cavers around the world. They are used by groups who have not yet been to the caves to plan tactics to be used in their descents. It is, therefore, important that the information presented in such publications be correct. In my opinion it is better not to have a map than to have one that is blatantly misleading. Courbon's map gives the impression that one could, for example, easily communicate via voice or whistles between the surface and the bottom, or even easily lower and raise a person on a single long rope from the surface. I believe that the maps produced by the 1977 U.S. expedition more correctly depict the cave.

THE MORPHOLOGY

Figure 5 (on the cover) is a schematic perspective map which attempts to show the morphology of the cave. The cave is formed by the intersection at The Spider of two distinct vertical shafts. The cave cannot be rigged with a single rope without it touching the lip at The Spider. It could, I believe, be safely rigged this way with the use of a rope pad at the lip of the bottom pitch. Provatina is neither an exceptionally deep cave (in international terms), nor does it contain a record length pitch (the longest pitch is 214.7 m (704.4 ft)). It is, however, one of the most hauntingly beautiful caves I have had the privilege of exploring.

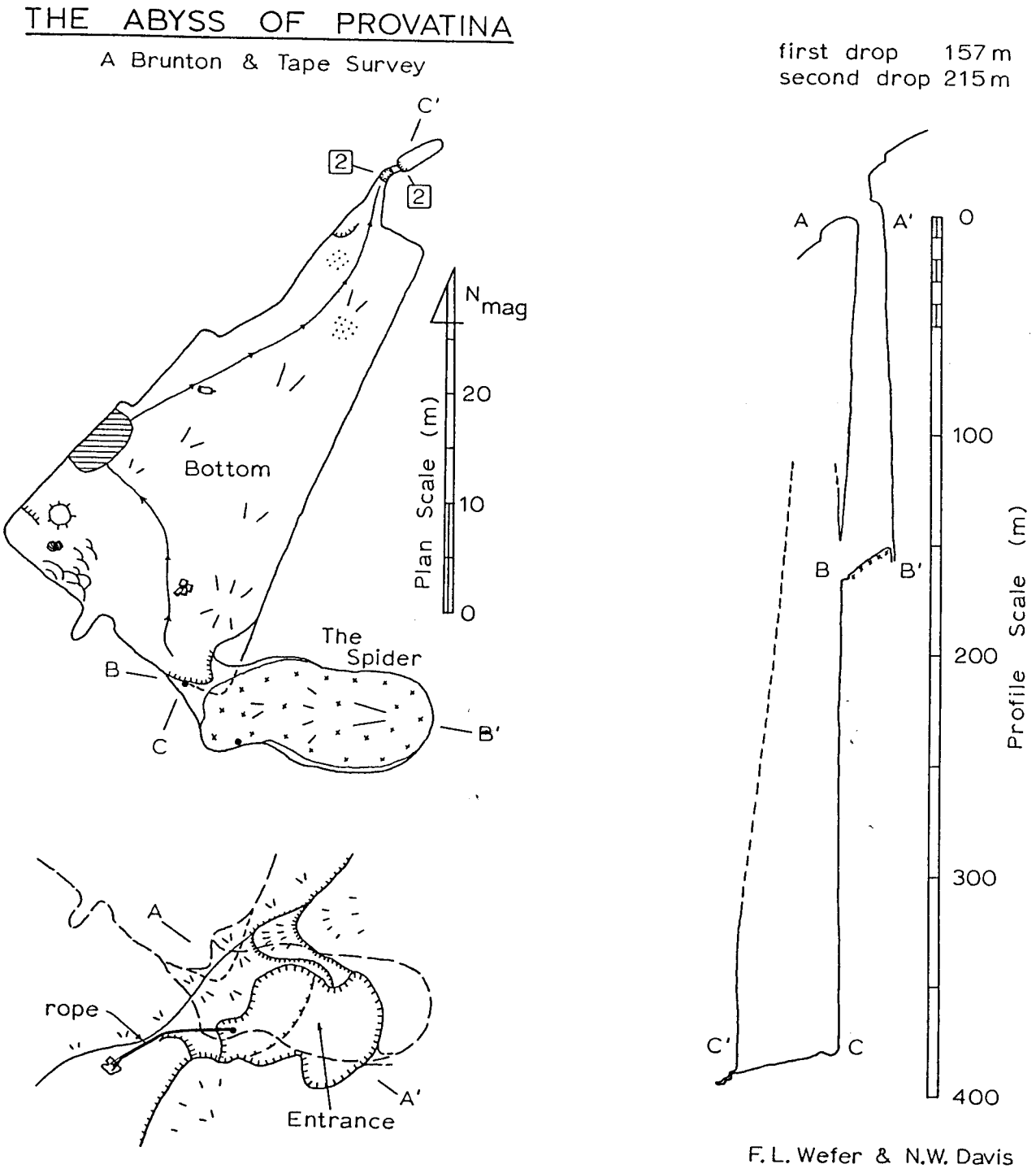

Figure 3 Plan and profile views of The Abyss of Provatina from the survey by the 1977 U.S. expedition. The upper plan view shows The Entrance and The Spider. The lower plan view shows The Spider and The Bottom. Note that the plane of the profile changes with depth in the cave.

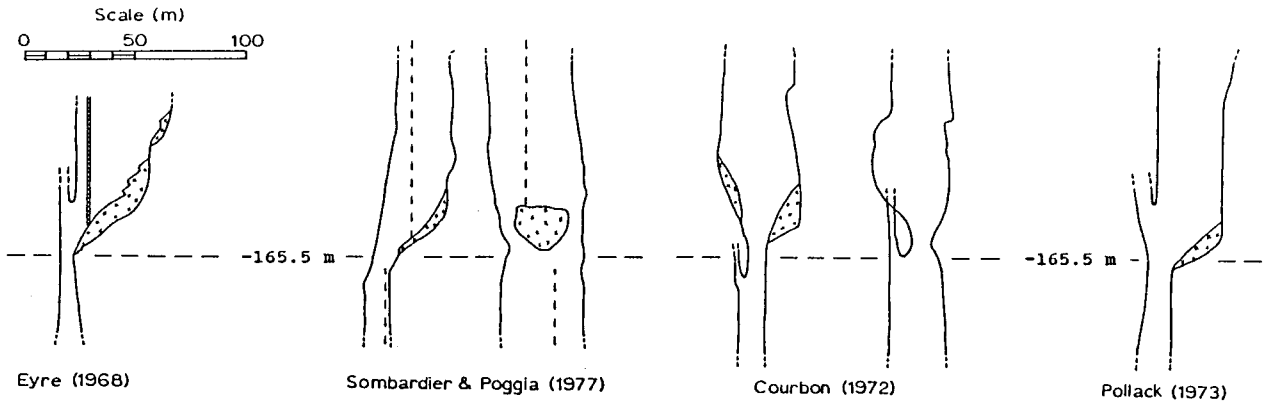

Figure 4 A comparison of previously published profile views of The Spider in The Abyss of Provatina. The level shown by the producers of these maps as -177 m is, according to the measurements made by the 1977 U.S. expedition, at -165.5 m.

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The Need for Standardized Cave Map Salon Judging Criteria

by Rich Breisch

While viewing the cave map salon at the 1988 NSS Convention, I overheard one cartographer complain that his map had been marked down because of the way he showed passage detail. An alternative method was suggested by the judges. The mapper complained that the suggested method was the one he had used last year -- but then his map was marked down, and last year's judges suggested the method he used on this year's entry. The mapper felt cheated that for two years in a row his cave maps received low marks because of the whims of the map salon judges.

Can you imagine an athletic competition in which a gymnast, diver, or ice skater found out on the day of the competition that the point system used for his event was different from the scoring system used in past competitions? In the NSS Cave Map Salon, the contestants do not learn about the rating system until after the judging!

My Gripes

George Dasher's opinions in "One Judge's View" in Compass and Tape, Vol. 6, No. 1, pp. 3-5, Summer 1988, gave insight as to how he graded the maps. I believe that several of the criteria he used in judging were inappropriate. The most objectionable to me was his insistence on a precise location for the cave. If a cave has any delicate speleothems, animal life, paleontological or archeological material, the cave location should not be placed on the map. If the cave is particularly hazardous to the type of person who is likely to obtain a copy of the map, then the cave location should not be shown on the map. If the map is to be published, there may be different safety standards depending on whether the map is made available to the general public or is printed only in the speleological literature. There are times when showing a cave's location on the map is appropriate. For example, if the map is to be used in a geological or hydrological report and the surface topography is pertinent to the development of the cave or its features, the location may be included on the map, but in general, a cave's location more accurate than state and county does not belong on the map of the cave.

Dasher would disqualify a cave map if it did not show a zero datum. The zero datum is an artificiality of the survey. It is more or less standard practice to start the cave survey at a well- defined landmark such as a point near the dripline of an entrance. The zero datum should be shown on the cave map if the cartographer is stressing the vertical extent of the cave, but in general the decision on whether to include the zero datum on the map is up to the person who is drawing the map. Maps should not be disqualified from salon prizes if the cartographer chose not to show the zero datum.

Dasher gave his lists of items he believes belong on a map. If all of these items were shown, the map is likely to look rather

cluttered. It is really up to the cartographer to chose whether to place the name of the stratigraphic formations on the map or to list all fifty people who participated in the mapping project. I like to list the geological formations, but would rather list the grotto or regional association which did the mapping in lieu of long lists of names. In any event, the cartographer decides whether his cave map is to serve as a road map to the cave by documenting every noticeable feature or, alternatively, is offered as a work of art in which the pleasing presentation of the cave passage takes precedence over applying names to all features.

My personal peeve is with mappers who do not use the truly international system of units - the metric system. If the mapper uses some archaic measuring system which measures distance in nautical miles, statute miles, furlongs, rods, feet or inches, that is his business; however, dimensions given on the map should be in kilometers, meters, or millimeters.

At least for now, that is enough discussion on what belongs and does not belong on a cave map. This discussion does not help the person who is going to submit a map for judging at the annual cave map salon. It is time to get away from the arbitrary judging criteria which varied from year to year for past salons.

Recommendations

I recommend that a committee be formed from members of the NSS Survey and Cartography Section which would accomplish three tasks:

(1) Set up a point system for judging the cave maps at the NSS cave map salon.

(2) Compile a list of features which would disqualify a map from winning a ribbon.

(3) Recommend optional items which should appear on a cave map.

Salon judging forms from the past could serve as a basis for establishing the point system. The committee could recommend how many points should be given to topics such as detail, consistency of style, draftsmanship, overall visual appearance, innovative techniques or design, or any other pertinent attributes I believe that innovation in cave maps would be given high points. The judging form might have only a few topics or it might be very detailed.

It is too late to form a committee and compile the lists in time for publication prior to the next NSS convention. A draft point system could be defined by the time of the convention and discussed at the Survey and Cartography Section meeting at the next convention. The first point system will not be a standard for all time. In could easily be modified after a few years if it is found that some outstanding maps are not winning recognition because of an unforeseen bias in the rating system. The lists recommended here are not static documents restricting style and innovation, but rather

will serve as guidelines which could be used to raise the quality of cave maps throughout the country.

Experienced cave mappers who wish to serve on the recommended committee should contact the chairman of the section, John Ganter, whose address is given inside the cover of this issue.

SOME TIDBITS ON SOLO SURVEYING

by Kevin and Carlene Allred

The whole idea of solo cave surveying seems immediately disdainful to many surveyors because of several reasons;
1. It may be regarded as dangerous
2. It is strenuous, frustrating, and time consuming
3. It may be regarded as inaccurate
4. For some it is boring and lonely.

We are not preaching to cave alone, except under special circumstances and with many precautions. Because one is solo surveying does not necessarily mean one is also solo caving. Occasionally, since some members of a survey team may cop out at tight or awkward spots (sometimes perhaps really to avoid more surveying), the more enthused surveyor can either leave with the others or, if they can wait, survey onward alone. This latter way, even though usually not much is surveyed, the passage often ends soon anyway, leaving that portion of the cave done. This is especially desirable if the area is not too extensive and one does not cave to re-enter it again anyway.

A few years ago, Kevin found himself alone in the Alaskan bush at a cave which possibly won't see another cave surveyor for many decades to come. The nearest caver was hundreds of miles away, so the cave got surveyed. Another example was a companion who didn't know how to body repeal down a 20 foot handline. Under such circumstances, it may be feasible to make a short recon and do some surveying.

In a solo survey, the main obstacle seems to be the missing tape and light holder for one of the stations in each shot. Although we have heard there is someone who trained their dog for this function, we vary in our technique. We frequently will pin the tape end under a rock tightly enough for a measurement and place the station light there also. When using a penlight, small ledges and fissures can be utilized for stations by wedging the tape end and penlight in securely. We find that it sometimes requires several trips back and forth between stations to finally make the actual measurements. Occasionally, you get a real difficult shot where the tape, or light, or both just don't stay put. All in all, it can be quite fun to find suitable points and soon one becomes quite proficient at the game. Often, we take nothing but back shots while soloing. Sometimes, after a shot, it may be possible to pull (carefully!) or flip the tape end of the far survey point to save the wear and tear of crawling or sliding over it twice or the hassle of trying to reel the thing in on your way to retrieve your light.

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In one long sandy crawlway last year, Kevin's surveying companion got claustrophobia and refused to continue. Kevin had already gone through and so then discovered a quite efficient way of solo surveying such crawlways. What you do is pull out 20 or 30 feet of survey tape, lock the reel at a nice round number, and make a pile of sand (or clay, etc.) atop it with your light stuck in. This way you can slide backwards (in a known crawlway) establishing progressive survey points and drag the other survey point towards you at each station. Subtract off what is excess in each distance or just record what you read to eliminate possible errors often made in the cave (you can do the math later in more comfort). This procedure saves lots of travel back and forth and also eliminates the likely situation of wiping out your last survey points when squirming backwards blindly over them. See Figure 1. Another idea would be to have your light attached to the end of the tape in some fashion and embed it firmly in sediment. This idea can be used with good results in other places (ceilings and walls) too, where ever the metal prongs or the opening in the end can get a purchase. The small flashlight can be tied on with anything on hand, such as wire ties, rubber bands, string, etc. Tie it in tow places and make sure it is visible on top of the tape, rather than hanging underneath. The reel can be locked and slung over a shoulder to keep the tape fairly tight and the light in position. See Figure 2. When reeling in the tape with the light so attached, be careful not to damage the light on a downward falling haul.

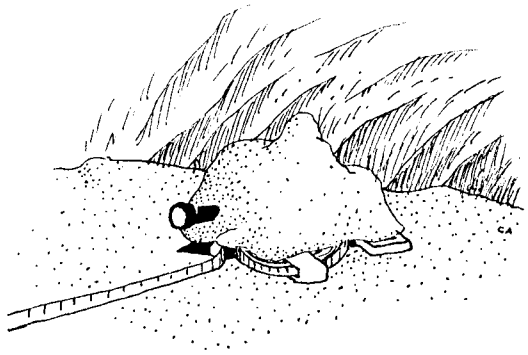

figure 1

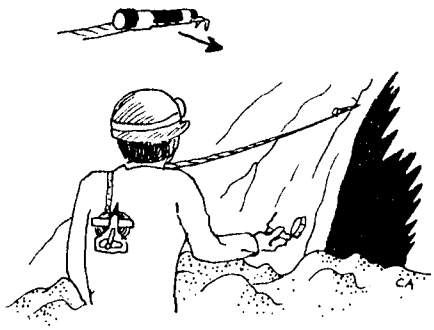

figure 2

Back in 1976, there was an article in the NSS News (Hedges, James - The Candelabra Piton NSS News Vol. 34, No. 3) featuring the 'Candelabra Piton' which utilizes a piton with a candle affixed on a swivel arrangement. See Figure 3. Although this may be useful in some places, it seems that there is much more versatility and simplicity with the light on the tape trick.

With practice and patience, a solo survey can be fun, efficient and accurate.

If any of you out there have any more ideas on this subject, please share them with us!

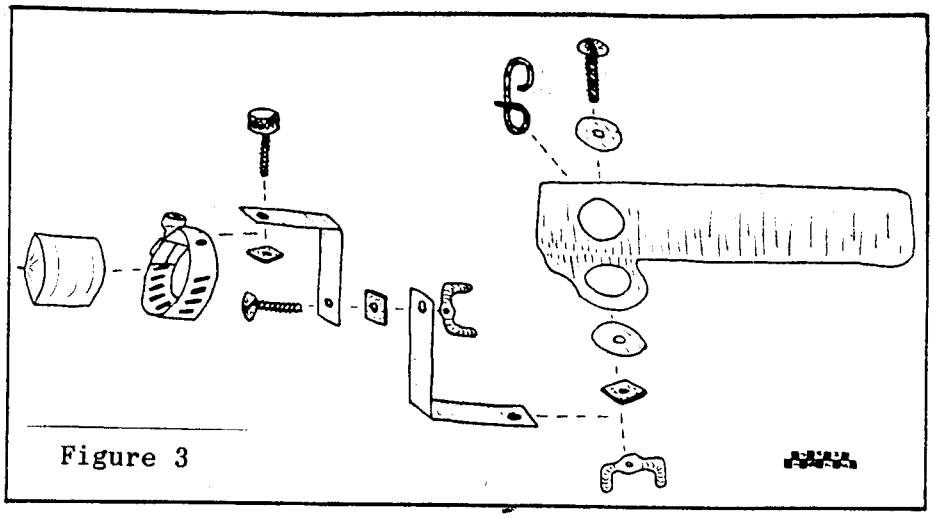

Figure 3

Comments on Standardized Map Judging

by John Ganter

George Dasher [1] and Rich Breisch [2] both have interesting comments on a matter that has been smoldering for as long as there has been a NSS Cartographic Salon: how do you judge the things? Conventions move; each year they are someplace new so that our dispersed members will all have a chance to attend, and each site reflects the character of the region, the caves and the cavers surrounding it. There is often a preponderance of maps, and members of the judging pool, from the immediate area. Other maps and judges come from far away.

From a formal cartographic viewpoint, the judging is often a bit bizarre; but then so are cave maps. The judges vary widely in competence (their ability to objectively compare and contrast complex works), experience (the breadth of maps they have seen and their own mapping attempts), and bull-headedness (the extent to which they know what they like and like what they know). So how can any consistency be maintained from year to year?

In 1988, for example, the Salon Chairman did not show up until about midway through the week, and of course he did not bother to telephone and arrange for a replacement. Somewhere along the way, George Dasher began to wonder what was going on, grabbed the ball, and ran with it. Under time pressure, he grabbed two other people who seemed to know what cave maps were, and who had not entered any in the Salon, and they proceeded to judge the entries. I must say (as one who did not enter the Salon this year) that they seemed to be an highly provincial and evangelical group; they definitely had an agenda. They knew what they liked and they liked what they knew. In other words, it was a normal Salon.

Regionalism. It's amazing. Each group talks about caves, caving and cavers as if they are all the same. George Dasher stands up and crusades for locations on cave maps [3], blissfully oblivious that in the west, post Caves-of-California, post Caves-of-Colorado, on the public lands, in the deserts, among the hordes of rockhounds and outdoor-rec-trash, things are different. Rich Breisch replies with a list of cave contents that supposedly mean the cave location can't appear on the map, from a completely different perspective. Who is right? Both. Neither. One. The other.

Why? Because it is a question which can only be answered in context. In fact, context overwhelms and extends the question, because the real question involves a continuum ranging from Top Secret to Open to the Public. The answer to this simple question of whether to put locations on maps is: it depends. And what it depends on is the much larger issue of cave exploration, cave documentation and cave conservation. This issue has either been ignored or reduced to fluff and dogma, but the Cartographic Salon is not the place to address it.

Regionalism is really an aside, but context comes back again. Breisch points out that a number of Dasher's criteria are subjective, for example his emphasis on zero datums and ceiling heights. When I hear those two things, I think of (surprise, surprise) George Dasher's maps, which I have studied at length. Clearly, George has an agenda: he is a typical Salon judge. But most of what he likes, what is on his agenda, is context-dependent: you can use all of these devices well or poorly. Expert cartography, like all branches of science, engineering and art, is not knowing rules; it's knowing when to bend, re-write and break them.

I think that I agree with Rich that some sort of standards should be constructed to try to increase the consistency of the judging. If nothing else, this would give less-experienced judges some basic guidelines of what to look for. This is low-level stuff; few would argue about whether a map needs a bar scale. Within this framework, points could be added or subtracted to compensate for problems within each category; for example taking points off for an arrow where the particular north (magnetic or true) is not indicated.

But then of course we have to move up a level and take into account the challenge posed by the cave. Obviously maps of a 20-foot sea cave and a much larger and more complex cave (both of which get 'perfect' checklist scores) do not compare. Note that I am not talking about length or size, per se. I am

talking about the challenge presented to representation, not simply extending a simple little cave out to a simple big cave. So there needs to be an overall 'power factor' applied to the sum of checklist scores. This is common in university-level cartographic courses: someone who lives in the lab for two weeks and makes some errors on a masterpiece will have their score 'scaled up' to exceed one given to a 'perfect map' that took an hour of work.

This is still low-level. Regardless of how the maps are ranked by scoring, the Judges will have to take a leap at some point and choose an overall winner (the Medal). (Notice that since the Salon is one-shot, you can't have the trial-by-elimination of some sports). One of the maps must have that certain quality where the whole effect exceeds the sum of the parts, including errors: this is commonly referred to as a Gestalt quality. It's a subjective judgement, and it's not an easy one.

An example of confusion over the highest-level of judging comes from Carol Vesely [4]. She relates an incident in which she asked a Salon judge to give her some reasons that her map did not win (in the 1985 Salon). She writes, "Under the pressure of my questioning he couldn't immediately come up with any flaws in my map, so he replied 'Well it's just a bunch of sea caves, you can't really expect them to win.'" I believe that Carol has missed the essential point: the Judge couldn't 'come up with any flaws' because there weren't any. The Cart Salon is not reductionist [5]. The Medal is not the map which survives being torn to pieces, rather it is the one which, viewed holistically, is outstanding.

There is one additional complication: the map can never be separated from its subject, as Carol's hapless prisoner confesses (above). She objects vehemently, saying that she thought the intent of the Salon was to judge maps, not caves! She points out that the Photographic Salon 'tries to be objective in weighing technical merit as the most important criterion.' An interesting point, but I don't buy it. Carol is an accomplished photographer as well as a cartographer, but she doesn't come home to Pennsylvania to pursue either activity. You can dig expertly, but you are not going to find gold in a silver mine [6].

The underlying goal of cave mapping is to reveal a subject in a novel and powerful way, to provide a new means for seeing and thinking abstractly about a spatial distribution. And that is the key; the thing, the distribution has got to be there. The map that displaced Carol's was equal in technical merit (the 'checklist') and perhaps in Gestalt character, but it won acclaim because it revealed an elegant form through the application of technique. We don't award the Medal for a map that just looks good: it has to hit a worthy target.

Anyway, as Chair I'm here to serve, so by all means send your ideas on this issue or bring them to Convention. Which reminds me; there is a tendency for 'sidewalk-superintendents' to dominate at our meetings, (e.g. in the great ongoing, recurring Standard Symbols debate). I will thus give the floor first to those who have coherent, positive, informative statements. So think and write before you walk in.

NOTES

[1] 'One Judge's View,' C&T 6:1, Summer 1988, p. 3-5.

[2] 'The Need for Standardized Cave Map Salon Judging Criteria,' this issue.

[3] Not withstanding the context issue, I think that George's question 'Are we producing toilet paper for our children or usable cave maps?' reveals a very deep problem in cave documentation. If a cave is not recoverable, all the information known about it would appear to be resting on a foundation of sand.

[4] 'Random Ramblings about this Year's Map Salon,' C&T 3:2, p. 33-35.

[5] At least not in overall thrust or at the highest-level (the Medal decision). At lower levels, the process seems to be reductions or at least analytical.

[6] A useful saying, but not strictly accurate.