

## THE COLOURS IN VEXILLOLOGICAL DOCUMENTATION

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This presentation concerns primarily FIAV. Sure, this is not the first attempt how to deal with the phenomenon colours and certainly not the last one<sup>1,2,3</sup>. The reason is simple: The colour is a matter of subjective perception and therefore a throughout individual conception<sup>4</sup>. This presentation consists of three sections: 1) A proposal how to amend the Flag Information Code, 2) an instruction how to implement the proposal, and 3) some counsels for computer users.

### 1) Proposal how to amend the Flag Information Code

At the beginning somewhat theory and terminology. Nowadays the modern theory of colours knows three attributes: «Hue is that attribute by which colours are classed as red, yellow, green, blue, or intermediate between any contiguous pair of these. Saturation is the attribute that describes the vividness of hue, or the degree of difference from a grey of the same lightness or brightness. Brightness is the attribute by which colour may be referred to a scale of dim to very bright for light sources, black to colourless for transparent objects, and black to white for opaque objects.»<sup>5</sup>. Therewith we will be able to understand ourselves better. The features of a full colour are the hue, the saturation and the brightness. The characteristic of the achromatic colours – black, grey and white – is merely the brightness. The result of the additive mixture (the mixture of lights) of all colours is white, of the subtractive mixture (the mixture of colorants) is black. The brightness and the saturation show the «shade» and that is the term I will use mainly, apart from the common term «colour».

Section III, flag colours, of the FIAV Flag Information Code states<sup>6</sup>: «A. The following letters are adopted for use to indicate the colours of a flag in illustrations: R = red / O = orange / Y = yellow / V = green (properly said vert) / B = blue / P = purple / N = black (properly said noir) / W = white / Au = gold / Ag = silver. B. Colours other than those listed shall be written out in full.» This system has proved as advantageous and, except a case that I may call «splendid isolation», is used world-wide. It enables to interpret correct flag illustrations and even to understand, at least partially, texts written in exotic languages too. The advantages of this system are clear: it is simple and only one letter corresponds to each primary colour. The exceptions «Au» and «Ag» apply to a minority of banners only, such as church banners or military colours. Two colours are missing in this list: brown and grey. They do not occur in the spectrum, but in vexillology they do, and this is what should be our standard. Does anything speak against the amendment of the list with two new letters? I do not think so. Here they are: «M» for maroon, brown, brun – and «G» for grey, gris.

Three examples show how it proves necessary, in my opinion, to introduce these supplementary letters. In the «SAVA Newsletter» No. 2, you can repeatedly find the non standardised abbreviation «Gr». By this the au-

hors mean grey, but you could interpret it as green too. With the second example I shall cut off my nose to spite both mine and Mr. Cesak's face. The attentive reader of the «Terms and Stylistic Constructions Used in Vexillology»<sup>7</sup> could point out that some abbreviations have been freely fabricated without regard to the internal logic of the Flag Information Code: «V» for violet, although we have «P» for this hue, «N<sup>-</sup>» and «N» for grey. We can find, and this is my third example, on page 47 of «Flaggenforum» No. 7 the abbreviation «Viol», obviously for «P», purple.

Modern technology allows to produce more than the basic colours only as it was the case in the times of classic heraldry. In view of these possibilities, legislators all over the world make use of different shades, not to mention flags designed by private people and corporations. There exist many real shades but they do not suit into the existing scheme. The Flag Information Code requires to describe them in full. This leads inevitably to denotations such as bottle green, turquoise, lavender violet, sky blue, etc. The successor countries of the former Soviet Union give us continuously new variations: bordeaux red or colour of sandal-wood or better of red sandal-wood (in fact, the first is yellow, the second reddish brown). They are not always unambiguous. The sky in Argentina is bright, the sky in Greece is obviously darker. I should here submit a proposal which is based on the suggestion of Jaroslav Brožek, the father of Aleš Brožek<sup>8</sup>: You can imagine the primary colours in the form of a disk. That is a 6 ranges set of hues. In my opinion this disk is not sufficient for vexillological purposes. In nature, there are no sharp borders between two hues, e.g. in the rainbow, but an endless quantity of shades. It would be too much for us, indeed. But it would be sufficient to define two shades between two neighbouring primary colours. For example between blue and green: blue green (one third blue, 2/3 green) or green blue (1/3 green and 2/3 blue). Thus the set is increasing and consists now of 18 ranges, absolutely sufficient for our purposes.

Since brown and the achromatic shades do not suit in the disk – it would be necessary to present the colours in three dimensions, e.g. as a sphere or a double cone where one pole would be black and the other white – I present the colours in the form of a spreadsheet. The designation of the inserted shades is given by a combination of existing standardised letters, e.g. BV or VB. Corresponding to the logic of the language, the second letter signifies the higher rate of a hue, the first letter the lower rate. I hope, this logic may exist in other languages too. This is namely the prerequisite for the comprehensibility of these abbreviations. It could be possible too, to increase the symbolism of the letters, to write the first letter as minuscule to show expressively the lower rate, e.g. bV or vB. In my opinion, some of us are able to assign the new created shades to a colour in my table and to recommend them to other flag fellows. I would be glad if some colleagues joined this idea. We could discuss the details and the mode of further mutual understanding. If the editor of «The Flag Bulletin» doesn't mind, we could publish these recommendations in his bulletin: Paragraph A of article III of the Flag Information Code shall be amended by the codes M for maroon and G for grey. Paragraph B of the same article



shall be formulated in a new way: «Colours other than those listed shall be expressed by means of two letters representing the mixture of two neighbouring colours. The second letter is the symbol for the rate of 2/3, the first letter for the remaining rate. Example: VB shall mean a colour compounded from one share of green and two shares of blue (respectively vB).»

## 2) Instruction on how to implement the proposal

One understands the theory better if it is supported by specific examples. As you know, there are various scientific systems, in the first place colour sample cards or albums. I may name in this connection the BCC (British Colour Council), CIE (Commission Internationale d'Éclairage), Munsell, Pantone Matching System and the German HKS. They are of no relevancy for vexillologists. They are simply not at his disposal. He has in his library only flag books, often printed in a very good quality with correct colours. I have attempted to assign to 22 colours with each 5 shades of brightness (++, +, none, -, and --) plus to the colours N and W a typical flag. These flag examples out of a total of 112 possible colour shades may serve as a reference for similar cases. [Table 1] lists the flags:

## 3) Some advices for computer users

Personal computers are no longer the privilege of big corporations but have almost become a household equipment. Consequently, we can find them as well in possession of vexillologists, mainly younger persons who grew up with this device. These devices enable us not only to store and update flag documentation but also to draw flags, black and white or coloured, even if you are not skilled enough to draw them by hand with pencil or brush. The drawing technique concerns us as well. There are many drawing programs at our disposal, the best ones can create nearly 17 millions of shades. In such a case the human eye is not able to discern the difference between two neighbouring shades. Let us dwell upon our 22 basic colours and 5 shades of brightness. This leads to 110 possibilities or 112, if we include N and W, where no shade is possible. This is no hurdle for a computer, only for the computer user. [Table 2] shows the mixing of colours by means of an IBM compatible computer:

The table shows how to mix by electronic means the shades. I have tried it with an additive mixture, that is with the colours red, green and blue. The subtractive

Table 1

	--	-		+	++
N	Impossible	impossible	Belgium	Impossible	Impossible
W	Impossible	impossible	Japan	Impossible	impossible
G		Malta	Grisons		
Y		Bahamas	GDR		
OY					Germany
YO			Ireland	Bhutan Niger	
O					
RO					
OR					
R	Espirito Sto.	Iran /pre 1933	Switzerland	Bhutan Turkmenistan	Nagano Haiti 1964
PR			Swaziland	Kenya	
RP		Yamanashi			
P			Tokyo		
BP					
PB			Tanzania	South Africa	Hokkaido
B	Fiji	Finland	Netherlands	France	Great Britain
VB	Anguilla	Mongolia	Bahamas		
BV					
V		Zaire	India	Saudi Arabia	Arab League
VY					
YV			Tochigi		
M	New York			Qatar	Aichi
MR					
RM			Kochi	Northern Territory	Chuvash

As was said before, the colours are a subjective category. Therefore I can't exclude errors in my table. Please be so kind and analyse this table. The corrected and amended table could be a useful help for vexillologists and perhaps not only for them. The table represents only a practical aid. It is complementary to the proposal of section 1, without being a part of the Flag Information Code, however.

method is possible too, with the colours cyan, magenta and yellow, as the case may be, black. I don't know the other computer family, Apple Macintosh, but I think the method is at least similar. The aim of Table 2 is to simplify the processing of vexillological colours and to unify the reproduction of these colours. I am very grateful for every improving suggestion because the table is not perfect.

Table 2

1)	--			-			+			+			++		
2)	R	G	B	R	G	B	R	G	B	R	G	B	R	G	B
W							100	100	100						
N							0	0	0						
G				72	72	72	66	66	66						
Y	100	100	49	100	100	21	100	100	0						
OY										100	84	6			
YO							100	68	20						
O							100	49	13	100	35	5			
RO							100	39	6						
OR							100	30	20	100	20	5			
R	100	51	51	100	42	42	100	9	13	84	0	0	63	0	0
PR							100	0	46	65	0	41			
RP							100	0	71						
P				85	49	100	100	0	100						
BP							80	0	100						
PB						46	16	100	53	13	100	42	6	66	
B	24	91	100	13	69	100	0	22	100	0	21	81	0	22	66
VB	35	100	88	14	90	81	3	55	68						
BV							0		81	75					
V				0	98	20	0	70	6	0	62	0	0	49	0
YV							47	85	33						
VY							85	100	43						
M	91	91	73					53	34	0	39	24		0	
RM						81	25	0	75	17	0	64	10	0	

Number 1) denotes the brightness according to the Flag information Code.  
 Number 2) denotes the percentage of colours R = red, G = green and B = blue.

Notes

- <sup>1</sup> Georges Pasch, «Why there are only six colours on flags. A psychophysiological theory of basic colours», in: «The Flag Bulletin», X:2-3, 1971, p.141.
- <sup>2</sup> Seamas O'Brogain, «Flag colour reference - an introduction to colour science for vexillologists», in: «Irish Vexillological Newsletter», nr. 7, p.3.
- <sup>3</sup> Atle Grahl-Madsen, «(Draft) International Flag Standard», Bergen, 1974, p.10.
- <sup>4</sup> Arnold Rabbow, «Flag colour specifications», in: «The Flag Bulletin», XX:3, 1981, p.95.
- <sup>5</sup> The Encyclopedia Americana, International Edition, Danbury, Connecticut, Grolier Inc., 1972, vol. 7, p.312.
- <sup>6</sup> Whitney Smith, «The Flag information Code», in: «The Flag Bulletin», XXI:1, 1982, p.35.
- <sup>7</sup> Josef Cesák, Jiří Tenora, «Terms and Stylistic Constructions Used in Vexillology», Praha: VK, 1990, p.47.
- <sup>8</sup> Jaroslav Brožek, «Vexilologické problémy s barvami (vexillological problems with colours)», in: «Vexilologie», nr. 53, 1984, p.1118.