Rorschach Test on the crime scene in the authors of homicide: retrospective statistical study

Il Test di Rorschach sulla scena del delitto negli autori di omicidio: studio statistico retrospettivo

Ignazio Grattagliano • Salvatore Zizolfi • Daniele Zizolfi • Antonia Valerio • Stefania Zecca • Roberto Catanesi

Abstract

When drawing up an expert opinion, the Rorschach test is frequently used to gain a better understanding of the way of thinking, view of reality, management of affect and, in general, the personality of the authors of homicide. All these elements will be helpful to the expert called upon to clarify any level of mental disorder in the perpetrators of crime, especially in the case of serious crimes such as homicide. The present investigation stemmed from the assumption that it is possible to identify correlations among aspects of thought disorders (also psychopathological ones) and criminological and criminalistic variables closely related to the crime, and that traces of these will emerge in the Rorschach findings. A retrospective study of 49 Rorschach protocols was conducted on perpetrators of homicide, collected between 1998 and 2015 according to the SRR Scuola Romana Rorschach method and stored in the database of the Criminology and Forensic Psychiatry Section of Bari University Hospital. The results of the assessment indicated 23 subjects as imputable, versus 10 with a partial and 16 with a total mental disorder. Based on the dichotomy between the "organized" and the "disorganized" crime scene, the Rorschach was confirmed to be an extremely valid tool that contributes to delineate the overall personality and the most salient personal characteristics of the authors of homicide, as well as the criminal profile.

Key words: homicide • Rorschach test • crime scene • psychodiagnostic and psychometric indexes • psychology and forensic psychiatry • legal medical investigations

Riassunto

Nel lavoro peritale il ricorso al test di Rorschach è frequente per la comprensione del funzionamento del pensiero, dell'esame di realtà, della gestione della affettività e della personalità in generale. Tutti elementi utili per il perito chiamato a comprendere la modalità di funzionamento mentale dell'autore di reato, specie in casi di delitti gravi come l'omicidio. La presente indagine muove dall'ipotesi che sia possibile individuare correlazioni fra aspetti del funzionamento mentale (anche psicopatologico) e variabili criminologiche e criminalistiche strettamente connesse al delitto, e che di tale ipotetica correlazione vi sia traccia nel Rorschach. Sono stati esaminati retrospettivamente 49 protocolli Rorschach di autori di omicidio, raccolti fra il 1998 e il 2015, secondo il metodo della SRR Scuola Romana Rorschach, provenienti dal data base della Sezione di Criminologia e Psichiatria Forense della Università di Bari Aldo Moro. In esito a perizia, 23 soggetti erano stati valutati imputabili, 10 con vizio parziale e 16 con vizio totale di mente. In base alla dicotomia tra scena del delitto "organizzata" vs "disorganizzata", il test di Rorschach si conferma strumento ausiliario validissimo nel contribuire a delineare l'assetto di personalità complessivo, le caratteristiche personologiche più importanti ed anche il profilo criminologico degli autori di omicidio.

Parole chiave: omicidio • test di Rorschach • scena del crimine • indici psicodiagnostici e psicometrici • psicologia e psi-chiatria forense • indagini medico legali

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Introduction

Personality, crime and the Rorschach test

The claim that crime, like every other human behavior, is nothing more than a reflection of our personal history (Barbieri, 2013, 2015; Barbieri, Bandini, & Verde 2015; Ceretti & Natali, 2009; Francia & Verde, 2015) and since the 1980s our level of psychic functioning (including the organization of personality) has been the mainstay of the theory according to which there is a correlation between aspects of personality and the crime committed (Canter, 1997; Canter & Alison, 1999; Canter & Larkin, 1993), in its sense as a personal transaction that reflects the perpetrator's personality traits, life story and interaction with the surrounding world. This laid the basis for investigational psychology, on the assumption that the behavior adopted during the aggression, the selection of the victim and the method of action are all in some way rooted in and linked to the perpetrator's personal story, mode of mental functioning and to the quality of his/her relationships.

For this reason, those habitually called upon to draw up expert opinion reports assessing the imputability of perpetrators of violent crimes pay close attention to the method of execution, the behavior before and after the crime in other words, firstly it is necessary to have a set of data that appears to be more of criminalistic type (the crime scene), and then correlate this with the criminological data (dynamics of the crime), and finally to the forensic psychology and psychiatry aspects (motive underlying the crime and level of normal or pathological mental function).

From this perspective, the type of thought disorder and the motive underlying the act, before, during and after the crime, are pieces of the puzzle that the expert will try to solve, seeking on one hand coherent answers to the questions, and on the other to restore an intelligible subjectivity and comprehensibility to the crime as the basis for the subsequent expert assessment.

A support in this sense is offered by a Master of Forensic Psychiatry, Professor Ugo Fornari, who stated on this point (Fornari, 2015): *"…the pathological mental functioning that gives rise to the grave crime must be set in relation to the behavior adopted before, during and after the crime. The more severely pathological the thought disorder, the less structured the defenses, more scattered the identity traits and compromised the view of reality, the more impaired will be the functional autonomy of the Id. The passage toward the act will be uncoordinated and unpremeditated, as regards both the background and the execution, as well as the behavior immediately after and vice versa…. passages petrified in the act, congealed within egosyntonic*

manifestations and structured according to a lucid, even if perverse, criminal plan are attributable mostly to those who are judged fully imputable at the expert assessment … or at most affected by mental semi-infermity. On the contrary, the more severe the pathological mental impairment, the less structured the defenses, more scattered the identity and compromised the view of reality (extending to psychotic slipping), the more uncoordinated and unpremeditated will be the passage to the act, as regards both the background and the behavior immediately after… Close examination of the crime scene and methods … that preceded, accompanied and followed the crime can contribute, together with other fundamental parameters (clinical history, psychodiagnostic investigations, criminal record, criminogenesis and criminodynamics of the act, etc etc,) to provide "a disease value" for the crime committed, with evident consequences at the level of assessments on the issues of imputability and level of social hazard."

In the study of the personality, one of the most commonly used tools when drawing up expert opinions is certainly the reactive Rorschach test (Catanesi & Martino, 2006; Erard & Evans, 2017; Zizolfi, 2016). In the legal field, in the last twenty years according to the US statistics, the Rorschach has stably occupied the third place, immediately after the MMPI and WAIS, among the most widely psychological tests used in all the various sectors of forensic psychologic and psychiatric practice (Archer, Buffington-Vollum, Vauter Stredny, & Handel, 2006; Archer & Wheeler, 2013; Hinselroth & Strycker, 2004).

More than one third of professionals make systematic use of the Rorschach when assessing criminal subjects' mental status and whether they are of sound mind and admissible to undergo trial (Archer & Wheeler, 2013). Some concerns about the reliability of the test for expert assessment purposes have also been raised. Answering criticisms about the lack of validity and objectivity of the test, Weiner (1996) claimed that those who judge the test unreliable have only a limited, partial knowledge of the most accredited scientific literature in this field, and recommended that reliance should be made more on quantitative data (version, indexes and reports), whose reliability and validity have been supported by many research works (McCann, 1998), than on qualitative data (symbolic interpretations).

In fact, psychodiagnostic tools assessing the cognitive/planning profile and characteristics (Anastasi, 1982), such as the Rorschach test (Rorschach, 1921, 1942, 1981), can overcome the barrier of rational defences and must, therefore, certainly be considered as useful in the forensic sector. A Rorschach protocol can probe the most deeply hidden personal dynamics, psychopathological overlaps, the quality and level of the intelligence, attitudes and relational style. Indeed, in this context it should be always borne in

mind that the Rorschach Test is composed of structured stimuli that the subject must identify in perceptive-cognitive problem-solving tasks, and also that the subject's attitude when faced with the tables, and the mental mechanisms employed in responding, correspond fairly faithfully to the subject's attitude toward reality in general (Affatati, Grattagliano, Todarello, & Catanesi, 2012; De Fidio & Grattagliano, 2007).

The most recent meta-analyses have confirmed the reliability and validity, from the psychometric standpoint, of most of the text indexes (Mihura, Meyer, Dumitrascu, & Bombel, 2013), overcoming the last resistances of the long term critics (Wood, Garb, Nezworski, Lilienfeld, & Duke, 2015) and so putting an end to the so-called 'Rorschach controversy' (Zizolfi, 2016).

There are two essential conditions, however: firstly, there must be strict compliance with standardized, validated methods and versions for the administration and assessment of the test, such as those guaranteed by the *Scuola Romana Rorschach* (SRR) (Cicioni, 2016; Rizzo, Parisi & Pes, 1980), by the *Comprehensive System* (CS) (Abbate & Porcelli, 2017; Exner, 1974, 1978, 1986, 1991, 1997, 2005; Lis, Zennaro, Salcuni, Parolin & Mazzeschi, 2007) and by the more recent *Rorschach Performance Assessment System* (R-PAS) (Meyer, Viglione, Mihura, Erard, & Erdberg, 2011 and 2015), the modern evolution of the CS (Zizolfi, 2016). Secondly, the methodological choice as adopted by Mihura, Meyer, Dumitascu & Bombel (2013) should be followed, renouncing the desire to enter the no-go option of attempting to validate the overall Rorschach test in favor of investigating the concurrent validity of each of the psychometric variables emerging from the test, as compared to an external objective criterion.

On these bases, we examined the results of the Rorschach test administered to authors of homicide who underwent expert psychiatric assessment commissioned by the Judicial Authority to ascertain their mental abilities time when they committed the act, with the aim of identifying psychometric and psychodiagnostic variables associated with the crime characteristics.

In the present study we analyzed the distribution of the psychometric and psychodiagnostic variables of the Rorschach Test, administered according to the Scuola Romana Rorschach (SRR) method, correlating them with the crime scene descriptions, distinguished as 'organized' and 'disorganized'.

1. Materials and methods

The study of the database of the Criminology and Forensic Psychiatry Section at Bari University Hospital to identify the authors of homicide examined was made between 1998 and 2015. They were administered the Rorschach test during the psychiatric assessments commissioned by the Judicial Authority to ascertain their mental abilities at the time when they committed the crime.

1.1 *Rorschach Indexes*

The SRR (Scuola Romana Rorschach) version includes more than 200 indexes, that are not present in all the protocols obviously (Cicioni, 2016; Zizolfi, 2016). In all the subjects examined, the final report indicating the main Rorschach indexes, SRR version, was analyzed. Being a retrospective study of tests made by many different professionals, some of the required variables were often lacking. In particular, unfortunately, the Index of Impulsiveness was nearly never specified, nor the determinant characteristics of the secondary Type of Inner Life, that could not therefore be assessed.

For each Rorschach report, 120 psychometric indexes were considered: the total number of responses (R), the total number of positive responses (R+), R+%, the total time taken to complete the test, the mean latency time, the number and percentage of vulgar responses (V; V%), the color sum, the reality index, the affectivity index[1], the self-control index[2], 30 variables related to localization, 25 variables related to the determinants and 54 variables related to the contents. In practice, the 120 indexes considered cover all the information deducible from the Rorschach about, concerning the quality of the intelligence, cognitive capacities, behavioral control, thought disorders, view of reality, control of impulses, coping capacity and emotional control, etc. Other important information is gained from the psychodiagnostic clusters present inside the 120 selected indexes, which probe the mental procedures involved in processing outside information and the way the subjects see their own experiences and judge their decisions and motivations (Hinselroth & Strycker, 2004). The results obtained were compared with the normative reference values of the various Rorschach indexes according to the SRR, based on data published in 1995 (Giambelluca, Parisi & Pes, 1995), so largely contemporary to the experimental sample.

1.2 *Statistical analysis*

Statistical analysis was done using SPSS software. For continuous variables the mean and standard deviation (SD) were calculated, and for categorical variables the relative frequencies.

Differences in the distribution of categorical variables were analyzed by chi square test (significance set at p < 0.05); differences in the distribution of continuous variables were analyzed with Student's t test (two-tailed, significance set at p < 0.05).

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1 $(R\ VIII+RIX+RX)*100/R$

2 For statistical analyses, it was transformed from an undivided relation to a continuous numerical variable.

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2. Results

2.1 *Socio-demographic, clinical and forensic psychiatry characteristics*

As illustrated in Table 1, the selected sample included 49 subjects, 43 males (87.7%) and 6 females (12.2%) of various range (from 17 to 67 years) and years of schooling (0 to18 years); 24 were single (48.9%), 21 married (42.9%) and 4 separated (8.2%).

There were 8 subjects (16.3%) without a previous psychiatric diagnosis and 41 (83.7%) with various different diagnoses (13 with schizophrenia, 1 delusional disorder, 1 bipolar disorder, 5 with depression, 4 psychoorganic syndromes, 13 personality disorders, 4 with borderline intellettive function).

Following the expert psychiatric assessment, 23 (46.9%) subjects were recognized as of sound mind and therefore imputable, 10 (20.4%) as affected by a partial mental disorder and 16 (32.7%) by a total mental disorder.

In 14 cases (28.6%), the homicide was considered as premeditated, while in the remaining 35 (71.4%) it was judged impulsive and unpremeditated. In 31 cases (63.4%), the crime scene was classifed as "organized", in 16 cases (32.6%) as "disorganized", while in 2 cases it was not possible to make a firm classification.

Table 1 also shows the distribution of the homicide classification ("Impulsive" vs "Premeditated") and the frequency of the different psychiatric assessment findings ("Imputable", "Partial mental disorder", "Total mental disorder") according to the type of crime scene (Disorganized vs Organized).

An organized crime scene is more often associated with an imputable perpetrator (61.3% of the total), being much less frequent in subjects with a partial (22.6% of the total) or total mental disorder (16.1% of the total). By contrast, the disorganized crime scene is mainly associated with subjects with a total mental disorder (68.8% of the total) rather than with imputable subjects (18.8% of the total) or those with a partial mental disorder (12.5% of the total). Moreover, in disorganized crime scenes, homicide is often impulsive (87.5% of the total), whereas in organized scenes it is more often premeditated (64.5%).

There was no statistically significant difference in the distribution of the type of crime scene in terms of gender, age, civil status, years of schooling and degree of premeditation of the homicide. Instead, the chi square test showed a statistically significant greater frequency (p < 0.05) of organized crime scenes among imputable subjects and those with a partial mental disorder as compared to the non imputable subjects, as well as a greater frequency of organized crime scenes in normal subjects and those with a personality disorder.

2.2 *Psychocometric-psychodiagnostic variables in the overall sample (R = 49).*

Table 2 shows the mean and standard deviation of the 18 main Rorschach indexes in the overall sample (N = 49), compared to the normative SRR data available for the general Italian population. The authors of homicide produced protocols characterized by:

a) a lower number of responses than expected: 24 subjects (48.9%) produced less than 14 responses; 15 (30.6%) produced between 14 and 19 responses; only in 10 cases (20.4%) there were twenty or more responses obtained;

b) slightly lower mean values than the normal low limit (about five percentage points) in terms of the formal quality of responses, hence R+% and F+%: this finding is strictly linked to the quota of subjects with a total mental disorder;

c) a reduced absolute number of vulgar responses (V) but not percentage value (V%) (owing to the reduced number of R), regardless of the quota of subjects with a mental disorder;

d) a tendency to low or very low values for the reality index, regardless of the quota of subjects with a mental disorder: I.R. was 0, 2, 3, 4, 5 in 3, 11, 3, 17 and 7 subjects; 34 subjects (69.4%) had an R.I. of 4 or less; only in 8 cases (16.3%) was the R.I. within the normal range (6–8);

e) a marked reduction of responses with a human content, both in absolute and in percentage terms (H; H%): 22 subjects (44.9%) did not supply any response with a human content; when H responses were present, the H% was less than 10.0 in 15 cases (30.6%); in 12 subjects (24.5%) it was 10.0% or more, being less than 15.0% in 8 of them (16.3%);

f) lower values than expected for the affectivity index[3], being less than the desirable value of 0.35 in 30 subjects (61.2%), and 0.30 or less in 17 cases (34.7%), although these variations were not significant;

g) lower values than expected (>0) for the self-control index (M+FC = CF+C): equal to 0 (M+FC = CF+C) in 18 cases (36.7%), and less than 0 in another 13 subjects (26.5%);

an important reduction in absolute values for Primary Movement and Secondary Movement responses;

an extremely coarcted primary Type of Inner Life, only slightly extratensive.

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3   (R VIII+R IX+R X)⋆100/R

Table 1 SOCIODEMO- GRAPHIC, CLINICAL AND FORENSIC PSYCHIATRY VARIABLES OF THE SAMPLE							
	Overall sample (N 49)		Scena del Delitto (N 47) ★★				
			Disorganized crime scene		Organized crime scene		Chi square p ★
	N (49)	% (100)	N (16)	% (32.6)	N (31)	% (63.4)	
Gender: **Male** **Female**	43 6	87.7 12.2	14 2	87.5 12.5	27 4	87.1 12.9	0.0015 N.S
Age: **<18 yrs** **25–44 yrs** **45–54 yrs** **55–64 yrs** **>65 yrs**	2 24 11 11 1	4.1 49.0 22.4 22.4 2.0	0 9 3 3 1	0.0 56.3 18.8 18.8 6.3	1 15 8 7 0	3.2 48.4 25.8 22.6 0.0	0.8616 N.S.
Civil Status: **Married** **Single** **Separated**	21 24 4	42.9 49.0 8.2	7 8 1	43.8 50.0 6.3	13 15 3	41.9 48.4 9.7	0.1594 N.S
Yrs of Schooling: **<5 yrs** **5 yrs** **8 yrs** **13 yrs**	5 15 20 9	10.2 30.6 40.8 18.4	2 3 6 5	12.5 18.8 37.5 31.3	3 12 13 3	9.7 38.7 41.9 9.7	4.3331 N.S.
DSM Diagnosis: **Normal** **Schizophrenia** **Personality disorder** **Depression** **Psychoorganic syndrome**	8 14 13 6 8	16.3 28.6 26.5 12.2 16.3	2 8 1 4 1	12.5 50.0 5.3 25.0 6.3	5 6 11 2 7	16.1 19.4 35.5 6.5 22.6	11.4505 p < 0.05
Homicide: **Impulsive** **premeditated**	35 14	71.4 28.6	14 2	87.5 12.5	20 11	64.5 35.5	2.7861 N.S
Imputability: **Imputable** **Partial** **Total mental disorder**	23 10 16	46.9 20.4 32.7	3 2 11	18.8 12.5 68.8	19 7 5	61.3 22.6 16.1	13.2238 p < 0.05
★: significance set at p < 0.05; N.S.: No significant Difference							
★★ N.B.: N was 47 not 49 because 2 subjects were not reliably classifiable on this parameter							

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Table 2
PSYCHOMETRIC-PSYCHODIAGNOSTIC VARIABLES OF THE ENTIRE SAMPLE

Rorschach Index	Overall sample (N = 49)		SRR, 1995 Normative Reference values (N = 792)
	Mean	SD	Mean
R	14.6	5.6	20–40
R+	**9.9**	**5.2**	**//**
R+%	66.4	19.5	70–80
G%	41.5	22.4	//
D%	50.2	21.9	//
F%	77.6	17.4	60–70
F+%	65.7	19.2	70–80
G+% on G	67.0	25.7	70–80
H%	5.9	7.5	M = 10–20; F = 20–30
A%	49.3	22.7	30–50
M	0.7	1.3	//
m	0.5	0.8	//
V	3.7	1.9	5–7
V%	26.4	11.6	20–25
Reality Index	3.8	1.8	6–8
T.V.I.	0.7 / 1.7	1.3 / 2.3	//
Affectivity Index (R VIII+IX+X) x 100/R	0.31	0.12	>0.35
Self-control Index	0.12	1.99	M+FC > CF+C Cioè > 1

Finally, Table 3 shows the mean and standard deviation for the same 18 principal Rorschach indexes in the 31 homicides with an organized crime scene and the 16 homicides with a disorganized crime scene, and at the bottom, the mean and standard deviation for the other four Rorschach indexes resulting statistically different for these two subgroups. In relation to the overall sample of authors of homicide, there were no significant differences between the two subgroups. In the homicides with an organized crime scene, there was a statistically significant difference ($p < 0.05$), in that they produced protocols with a lower total number of responses R, a lower number of common detail responses D, a lower percentage of localization responses within the inkblot (Dim%), a lower number of pure form responses (F) and a lower number of pure form responses of negative quality (F–).

Rorschach index	Homicides, Organized Crime Scene (N = 31)		Homicides, Disorganized Crime Scene (N = 16)		p*
	Mean	SD	Mean	SD	
R	13.2	5.0	16.6	4.7	< 0.05
R+	9.4	5.1	10.5	4.7	N.S.
R+%	69.1	19.5	61.2	20.3	N.S.
G%	44.2	23.7	37.1	20.8	N.S.
D%	48.4	22.3	54.0	21.9	N.S.
F%	75.9	18.3	81.5	16.3	N.S.
F+%	68.6	18.7	60.6	20.6	N.S.
G+% on G	69.7	22.9	62.2	31.5	N.S.
H%	6.1	8.3	5.2	6.3	N.S.
A%	53.8	23.5	43.2	19.1	N.S.
M	0.5	1.2	0.9	1.3	N.S
m	0.4	0.7	0.7	1.0	N.S
V	3.5	1.7	4.1	2.3	N.S.
V%	28.0	12.0	24.2	11.2	N.S.
Reality Index	3.6	1.6	4.3	2.2	N.S.
T.V.I.	0.5 / 1.7	1.2 / 1.7	0.8 / 1.4	1.2 /3.0	N.S.
Affectivity Index (R VIII+IX+X) x 100/R	0.30	0.11	0.32	0.14	N.S.
Self-control Index	0.03	1.76	0.43	2.53	N.S.
D	6.58	3.77	9.44	4.30	< 0.05
Dim%	0.84	1.19	2.42	3.46	< 0.05
F	9.61	3.39	13.25	3.62	< 0.05
F–	2.12	1.75	4.31	2.80	< 0.05

Table 3
PSYCHOMETRIC-PSYCHODIAGNOSTIC VARIABLES IN RELATION TO THE CRIME SCENE

(*): two-tailed Student's t test, significance set at p < 0.05
    N.S.: No Significant Difference

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3. Discussion

Inevitably, the present investigation suffers from some limits due to its retrospective nature, being based on an extremely heterogeneous case series, extracted from a database to which many different professionals had contributed, even if they all referred to the same Rorschach method, namely the SRR, Scuola Romana Rorschach, but who may have applied it with different degrees of rigor.

However, it has the advantage of offering a faithful image of forensic psychodagnostics practice in real life, so even if it does not claim to provide definitive results, it offers causes for reflection and useful suggestions for future research.

Nor should the evidence be ignored that the chi square test did not reveal any statistically significant difference for most of the variables that conditioned the heterogeneity of the sample, namely the gender, age, years of schooling, civil status, and degree of premeditation of the crime.

Instead, the issue as to whether the results obtained are linked to the crime of homicide and the type of crime scene, or if they are conditioned by the relatively high quota of subjects affected by psychiatric disease and total mental disorders, especially in the sample subgroup with a disorganized crime scene, remains open and should be addressed in subsequent more controlled investigations.

Having said that, it should be noted that the subjects examined yielded less productive Rorschach results (R), as often happens, in non specific fashion, in the expert assessment field (Pacente, & Grattagliano, 2007). In the same way, in our opinion the tendency toward low values for the reality index and for the lower than expected affectivity index values seems to have minor significance[4].

In our view, more relevant aspects also from the quantitative standpoint, were considered to be the very low values for the Self-control Index and for the percentage of responses with a human content. These are evidently related to the marked impulsiveness of these subjects, and to their relational and psychosocial adaptation problems, as well as the reduced human and interpersonal sensitivity of these subjects, as could be expected in the authors of a such grave crime as homicide. The more interesting results seem to be those related to the relation between the Rorschach psychometric and psychodiagnostic variables and the type of crime scene, distinguished as organized versus disorganized with references to the dichotomy developed and implemented by the FBI from the end of the 1970s.

In 1978, the FBI formally instituted a stable program of development and analysis denominated the Psychological Profiling Program, as drawn up by the newly instituted Behavioral Science Unit. Since then, this has been a stable part of the FBI Academy in Quantico.

So, psychological profiling originated in the US context and gained a concrete form in the approach denominated Crime Scene Analysis. This methodology is based on the comparison of the elements produced by two distinct investigational activities, namely Crime Scene Reconstruction, and Criminal Profiling of the perpetrator.

In the present contribution we shall be dealing only with Crime Scene Reconstruction. The collection of data at the crime scene and from witnesses is an extremely important step in the course of the investigation, and it must be conducted very accurately, closely checking the information gained from witnesses and suspects. From a careful selection and analysis of the resulting data it should then be possible to draw some conclusions that will then orient further actions. For this purpose, all the clues collected at the crime scene (serology samples, documents, ballistic findings, traces and fingerprints, anatomopathological elements, etc.) and the related study elements (medical and/or autopsy reports, photos and videos of the crime scene, measurements, diagrams, transcriptions of witness statements, information about the victim, etc.) must be subjected to extremely sophisticated analytical processes to assess the plausibility of the various scenarios suggested by the crime scene reconstruction process. The FBI method is still the most common investigational model, as well as the most celebrated at the mass media level. It is essentially based on the assumption that the crime scene can be classified, on the basis of the characteristics, as "disorganized" or "organized". Once classified as one or the other, it is possible to proceed to draw up a profile of the possible perpetrator (Offender Profiling), because organized subjects seem to have a certain type of personal and social characteristics that differ from those of disorganized subjects (Canter, 1997; Copson, 1997; Holmes & Holmes, 1996; Kocsis, 2003). The crime scene examination can therefore yield a large number of clues to the personality of the perpetrator of the crime. In particular, three aspects can be assessed:

– the modus operandi whereby the perpetrator committed the crime;
– the 'signature': this is the criminal's visiting card and since it goes beyond what is strictly necessary to commit the crime, it is what makes it unique and original. Unlike the modus operandi, which tends to be fairly standard although of course it may change, the 'signature' is invariably identical in the whole series and it is thus the most important symbolic element;
– crime scene staging, i.e. deliberate alteration of the crime scene after the criminal act in order to mislead investigators.

The studies conducted by the FBI have been collected in a volume that immediately became a classic reference text, namely the Crime Classification Manual (Douglas, Burgess, Burgess, & Ressler, 2006; Palermo & Kocsis, 2005; Picozzi & Zappalà, 2002).

According to the Crime Classification Manual (Douglas, Burgess, Burgess, & Ressler, 2006), an unpremeditated crime is defined as "non organized". The scene where the crime occurred is chaotic, disordered, and the body of the victim is in plain view and in the original

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4   (R VIII+R IX+R X)*100/R

attitude at the time of death. The violence will have occurred after a minimal interaction between the victim and the aggressor and may be due to a burst of rage arising from the relationship existing between them. The unpremeditated crime scene will contain a rich collection of traces of various natures that can assist the investigators. On the contrary, the organized crime scene reflects a pre-planned methodology, where the victim could have been tailed for some time before, even if it could have been a chance encounter, but, in any case, the selected victim has the characteristics sought by the perpetrator. Moreover, the cadaver has often been hidden or moved to another place. A long quarrel may have preceded the act, and the aggressor tends to enact a series of strategies to keep control of the situation, contexts, people and especially of the victim.

The indicators of *organized* criminal behavior include: the crime is often premeditated, certainly planned in a succession of selection and approach strategies; the victim is attacked only in conditions where the aggressor feels safe and has no fear of being discovered; the ability to defer the homicidal plan; transport of the cadaver far away from the site of the crime, or otherwise it is hidden or buried; the absence of weapons or clues on the site; the crime site is abandoned and the author implements intelligent strategies to evade capture; only in rare cases the crime is followed by suicide; there are no pathological mental issues motivating or explaining the crime; there is a tendency to falsify reality to delay capture or ascertainment of the truth during trial, denying responsibility and attributing it to others, even unknown people. Sometimes the aggressor takes an active part in the search for the author of the crime, to redirect attention elsewhere and/or to face the challenge. On the contrary, the indicators of *disorganized* criminal behavior include: an unpremeditated crime (except in the case of paranoia) in the course of violent behavior leading up to the act; no objective precipitating reasons and no previous pathological experiences; the victim is seen in clearly psychopathological terms; the lead-up to the crime is disorganized, improvised and extremely violent (including mutilations and the use of several different weapons); the perpetrator suffered an increased sense of anguish during the crime; a tendency to a delusional disorder, hallucinations and/or depression; transitory states of altered consciousness; a very disorganized crime scene; sudden unexpected violence against the victim; the cadaver found lying at the site with many clues scattered around; fingerprints and knives or improvised weapons lying about; the aggressor is characterized by psychotic depeletion and bizarre behavior *post delictum* (the aggressor may remain beside the victim's body or else attempt an uncoordinated escape; otherwise the aggressor may confess and be arrested without opposing resistance); suicide or attempted suicide are frequent after the act (Fornari, 2006).

The authors of homicide who leave an organized crime scene have a higher intelligence, more years of schooling, a better social and sexual adaptation; their overall behavior is better controlled, and they have a normal family background and often a middle or high level occupation. On the contrary, the authors of homicide leaving a disorganzed crime scene more often have a lower than normal intelligence, little schooling, an unsatisfactory family background and poor social and sexual adaptation; they come from problem families and are unemployed or under-employed.

In the light of these characteristics, the Rorschach findings obtained seem highly indicative. The greater attention to details (a greater number of D responses) shown by the authors of homicide leaving a disorganized crime scene points to an intelligence that is more oriented toward concrete matters, and a difficulty in appreciating things, aspects, contexts and relationships in a wider context, as a set of linked aspects with their associated greater complexity (Bohm, 1978; Cicioni, 2016).

In turn, the statistically significant higher percentage of localization responses within the inkblot (Dim%) among homicide perpetrators leaving a disorganized crime scene is classically considered a sign of contrary, inadequate social behavior (Cicioni, 2016; Rosso, 2008), even if sufficient meta-analytical evidence on this point is still lacking (Mihura, Meyer, Dumitrascu, & Bombel, 2013).

What is most important is the number of pure form responses of negative quality, **which is more than twice as high** in subjects leaving a disorganized scene, and it certainly signals a lower intellective quality, rough observation powers, a lesser ability to concentrate and poor cognitive self-control, in short, a lower than normal level of intelligence (Bohm, 1978; Cicioni, 2017). Nor should it be forgotten that among all the Rorschach indexes, F- has been one of those most amply validated, considering the most recent meta-analises (Mihura, Meyer, Dumitrascu, & Bombel, 2013).

In conclusion, if correctly employed the Rorschach test is confirmed as a very valid auxiliary tool that contributes to delineate the salient overall personality traits and the most important personal characteristics, together with the criminal profile, of authors of homicide.

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